AMERICAN GAS ASSOCIATION MONTHLY

JANUARY · 1937

Gas Industry Gains during 1936

•

Advertising—A Valuable Tool

J. P. LEINROTH

•

All-Year Comfort from Gas

C. A. McKINNEY

•

Tie Up, A Dramatic Explanation

The most COMPLETE *and* AUTHORITATIVE *Guide to*

BETTER KITCHEN and BASEMENT PLANNING

13 Chapters—45 Pages
15 Full Page Photographs of Modern Gas Kitchens

A SECOND EDITION, new and up-to-date, of the Association's popular book "Modern Kitchens—A Handbook for Design and Construction" is now available. The first edition, published in 1933, has been used by more than 300 gas companies as a guide in solving their kitchen planning problems. Although distributed exclusively to gas companies, copies found their way into the hands of kitchen planning and equipment specialists who have stated that it constituted the most helpful and authoritative guide used in their daily work.

SNYOPSIS

1. Principles of Planning the Modern Kitchen.
2. Selection and Location of Gas Appliances.
3. Types of Other Fundamental Kitchen Equipment. (Sinks, Worktops, Cabinets.)
4. Specialized Storage for Utensils, Linens, Supplies.
5. Smaller Accessory Equipment.
6. Wall and Floor Coverings.
7. Lighting Fixtures and Electrical Outlets.
8. Decorative and "Period" Treatments for the Kitchen.
9. Use of Existing Conditions in Old Kitchens.
10. Planning the Kitchenette and Apartment Kitchen.
11. Dining Alcoves, Pantries and Laundry Space.
12. Planning the Modern Basement.
13. Storage Requirements for China and Glassware.
14. Suggestions for Organizing and Operating a Kitchen Planning Service.
15. Fifteen Full Page Photographs (in pocket) of Modern Gas Kitchens. Twelve Plans for Architects.

Copies of the Second Edition of "Modern Kitchens and Basements—A Handbook for Design and Construction" are available to member companies at the following prices:

1-10 copies.....	$3.00 each
Next 40 copies.....	2.00 each
All over 50 copies.....	1.50 each

AMERICAN GAS ASSOCIATION 420 Lexington Avenue, New York, N. Y.

AMERICAN GAS ASSOCIATION MONTHLY

Contents for January 1937

VOL. 19 No. 1

A New Year's Message 2

Gas Industry Forges Ahead 3

Tie Up and Cash In—A Dramatic Explanation 6

Out of the Mystery Chef's Mailbag 8

Industrial and Commercial Gas Advertising—A Valuable Sales Tool 9
J. P. LEINROTH

Advertising and the Story Back of the Laboratory Approval Seal 13
FRANKLIN R. WRIGHT

Comfort from Gas—All Winter, All Summer 18
C. A. McKINNEY

A.G.A. and National Gas Advertising Discussed By Company Manager 22

Chimney Liners 23
MELVIN C. ECK

Affiliated Association Activities 26

Convention Calendar 26

Personal and Otherwise 27

Individual Payroll Summary 28
ALFRED WATSON

Commercial Section Inaugurates Many New Projects for Coming Year 30

What Industrial Gas Means to the Balance Sheet 32
FRANK C. SMITH

Going Ahead with Industrial Gas 33

Technical Section Organizes for Active Year 36
J. V. POSTLES

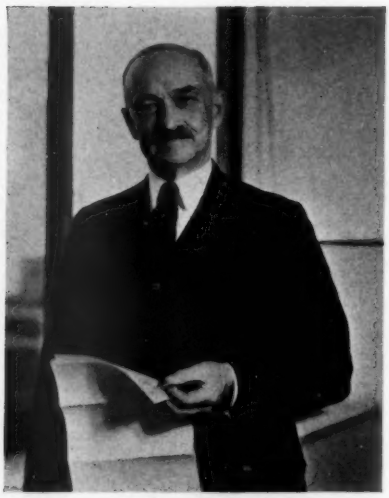
Testing Laboratories 38

Personnel Service 40

Published monthly by the American Gas Association, Inc. Publication Office, American Building, Brattleboro, Vt. Editorial Offices, 420 Lexington Avenue, New York, N. Y. Address all communications to 420 Lexington Avenue, New York, N. Y. The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein. Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

SUBSCRIPTION RATE : $3.00 A YEAR

A New Year's Message



President Russell

MY message to the gas industry is one of faith and confidence, but also one of serious concern.

My reasons for faith and confidence are that we already have 16,000,000 customers; that we have a product and a service which cannot be surpassed in its field; that we have modern, attractive, convenient and efficient appliances; that we supply a service with the highest degree of reliability; and that, together with all of these advantages, generally speaking, it costs the consumer considerably less to do his cooking, water-heating and refrigerating with gas than with any acceptable substitute.

My reasons for concern are that our customers, that is to say, the general public, don't know these things. Most of them don't have modern appliances and many of them don't know that such appliances exist. To them, gas means an old black range, with perhaps a side-arm water-heater, which has to be lighted with matches, has no automatic features, and no appeal. To them, attractive, clean, convenient, automatic, efficient, modern appliances mean the things they see advertised, displayed and demonstrated on all sides and all too few of such advertisements and displays feature the modern gas appliance.

When we have appliances and service of such merit and attractiveness, why should it be kept a secret from our customers? Why not drive home our slogan "MODERNIZE WITH GAS" to all the housewives of the land with displays and demonstrations which prove its truth?

We must sell our service and that means, first, understanding ourselves just how good it is and then bring that understanding constantly home to the public.

We must educate, we must develop, and we must sell. A small start has been made, but a lot more needs to be done. Let each one of us do his own job and help those who are doing theirs! Let's "MODERNIZE WITH GAS."

Herman Russell

President, American Gas Association

AMERICAN GAS
ASSOCIATION
MONTHLY

James M. Beall, Editor

Gas Industry Forges Ahead

THE turn of the year finds the gas industry looking forward with vigorous optimism to another year of progress and opportunity. The past year has brought many developments, notably a national advertising campaign which is uniting and awakening the industry to its possibilities. It has brought new advances in gas appliance design, an increased sales consciousness which is being reflected in more alert and intelligent selling, more intensive research, both fundamental and applied, the extension of natural gas into new areas, and many other no less important developments. All told it has been a year of unusual activity and the groundwork has been laid for even greater accomplishment in the year now beginning.

While it is not possible to comment on all phases of the industry's progress here, it is pertinent to mention the national advertising campaign as the outstanding achievement of 1936. Starting with the September issues of twenty-four leading general, women's, home, professional, trade, industrial and commercial magazines, the American Gas Association inaugurated a $1,500,000 national cooperative advertising campaign for three years. More than seven hundred companies serving in excess of 70 per cent of the gas customers of the United States have underwritten the program. In support of this program, the advertising of many local gas companies and of manufacturers of gas-burning equipment has been coordinated with the national campaign. Results to date have been distinctly encouraging but the ultimate success of the campaign depends upon local cooperation.

•

Reports from the statistical department of the Association show that the gas industry in 1936 continued the improvement which began during 1934. Phenomenal increases in some departments are mixed with favorable trends in others.

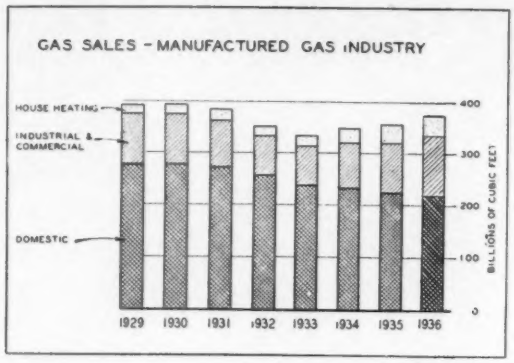
Manufactured and natural gas companies, supplying towns and cities with a population of 80,000,000, served a total of 16,501,000 customers, representing the largest number of consumers ever connected to the mains of the industry and an increase of 387,800 over the year 1935. Of these, 10,177,000 were served by the manufactured gas industry and the remaining 6,324,000 were served by the natural gas industry. Revenues of the entire industry, both manufactured and natural, aggregated $773,538,000, a gain of 6.4 per cent over the preceding year of 1935. The natural gas companies grossed $396,802,000, a gain of 11.6 per cent for the year, while revenues of the manufactured gas companies were $376,736,000, as compared with $371,535,000 in 1935, an increase of 1.4 per cent.

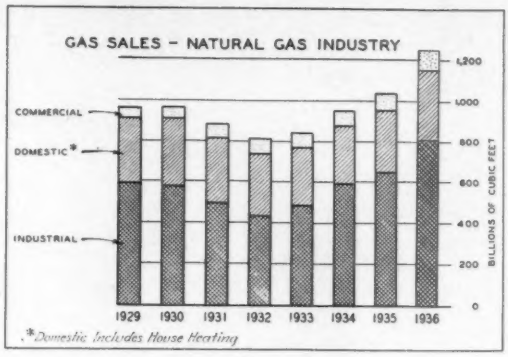
•

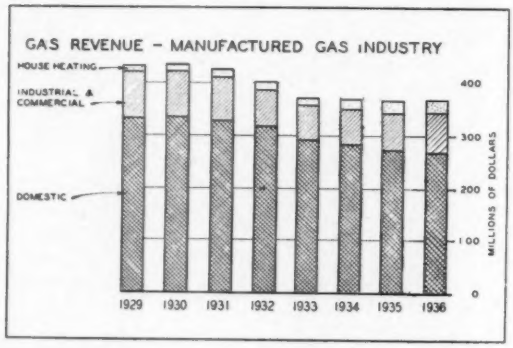
Sales of manufactured gas for domestic uses, other than house heating, such as cooking, refrigeration and water heating, amounted to 218,607,600,000 cu.ft., a decline of 1.9 per cent for the year. House heating sales, however, registered a gain of 16.7 per cent. On the other hand, the sales of natural gas for domestic uses registered a pronounced upturn rising from 304,255,000,000 cu.ft. in 1935 to 332,855,000,000 cu.ft. in 1936, a gain of 9.4 per cent. Sales of both manufactured and natural gas for industrial and commercial purposes in 1936 averaged about 22 per cent above the previous year.

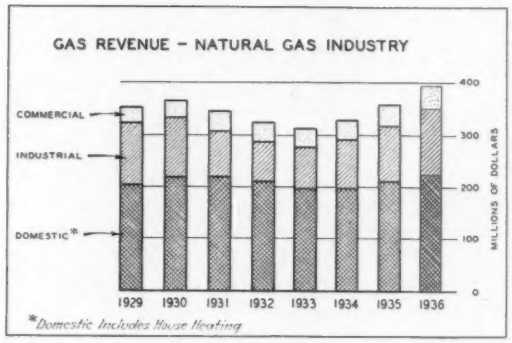
Preliminary estimates indicate that the total production of natural gas in 1936, including amounts used in the manufacture of carbon black and for field purposes, reached an all-time high of more than two trillion cubic feet or more than 4 per cent above the previous peak established in 1930.

During 1935 alone 1,100,000 gas ranges were sold, approximately equal to the entire number of electric ranges in use at that time. Preliminary estimates for the year 1936 indicate sales of nearly 1,500,000 ranges, a gain of 30 per cent, a figure only slightly below the peak established in 1929. The sale of ranges in 1937 is expected to proceed at an even greater rate as indicated by the fact that the million and a half ranges expected to be sold in 1936 represent only 10 per cent of the 15,000,000 ranges in use. When viewed in conjunction with the much smaller volume of









range sales during the depression, which reached a low of only 600,000 units in 1932, it will be seen that there is a tremendous market for replacement sales alone, to say nothing of the new customers rapidly being added by the industry.

Recent results of comparative tests of efficiency and costs of operation demonstrate definitely the superiority of gas cooking. Efficiency tests show the ratio of gas to electricity to be 2.08, while weighted averages of fuel costs for comparable cooking requirements in 196 cities indicate a ratio of cost of electricity to gas to be 2.39. The availability of these more efficient ranges strengthens materially the competitive position of the industry as regards its basic cooking load. In recent years the gas industry has supplemented the substantial amount of research conducted by gas appliance manufacturers by a vigorous and well-planned program of fundamental research and development through the American Gas Association. Even better and more efficient gas equipment will shortly be available which should serve to make these ratios even more favorable to gas.

Sale of gas refrigerators is proceeding at a rate of about 50 per cent above 1935. Gas is also receiving increased recognition in the air-conditioning field where control of humidity as well as temperature is required.

Water Heater Sales Jump

The past year and a half has been characterized by an increasing appreciation of the great potential market for domestic water heating. There has been a widespread adoption of rates more favorable to the use of gas for this purpose. This has been accompanied by a marked acceleration of local sales effort and a nation-wide coordinated campaign to promote the use of gas for water heating. So successful have been the results of this program that it will be continued during 1937. For instance, the sale of automatic type gas water heaters during 1936 is expected to average more than 50 per cent above 1935.

Many gas companies have also recently inaugurated more favorable rates for house heating through central plant burners and equipment. At the end of 1935 there were 171,700 such units in use in the manufactured gas group, representing nearly 1.7 per cent of the customers. The number of such house heating customers continued to grow throughout the years of the depression, and is increasing at a greater rate now than ever before. The phenomenal increase in this class of business is indicated by the fact that sales of manufactured gas for house heating purposes in 1936 were approximately three times the volume reported for the boom year, 1929.

The use of gas for commercial and industrial purposes throughout the country is growing rapidly in volume. In the year 1932 sales of manufactured gas for these purposes had fallen to approximately 72,000,000,000 cu.ft., but by 1936 had recovered to 113,583,000,000 cu.ft., a gain of nearly 58 per cent. Not only have the manufactured gas companies recovered the industrial and commercial load lost during the depression years, but the 1936 figure tops the record previously established in 1929 by more than 12 per cent. This ability to regain and augment the industrial load is even more pronounced in the case of the natural gas companies, whose industrial sales rose from a depression low of 434,266,000,000 cu.ft. in 1932 to 803,835,000,000 cu.ft. in 1936, a gain of 85 per cent. This also represented a

new all-time high in industrial natural gas sales, exceeding the record year 1929 by more than 35 per cent.

Commercial users of natural gas which include hotels, restaurants, stores and the like, have increased their consumption every year since 1929, with the sole exception of 1933. But even in that year, commercial uses were more than 30 per cent ahead of 1929, while commercial sales of natural gas in 1936 were almost 80 per cent above 1929.

New Industrial Outlets

New outlets are presenting themselves in the commercial and industrial branch of the industry. This year, for the first time in its history, the Industrial Gas Section presented a report covering power generation by means of gas engines. This marks an important step forward in the march of industrial gas. Gas for air conditioning commercial and industrial establishments has gotten far enough out of the research and development stage to attract national attention. Recent marked changes in materials which go into dwelling structures calling for more use of structural steel, glass, brick, synthetic stone, metalized wood, fabricated steel and concrete and home construction are resulting in a correspondingly greater demand for use of gas in the production of these products. In the field of industrial utilization new processes have been developed and equipment with improved efficiencies have come into general use. For example, a few years ago there was a distinct trend in the larger newspaper offices of the country toward metal melting by electricity for stereotyping and other purposes. Through the American Gas Association's cooperative research with manufacturers, methods have developed resulting in general acceptance of gas heat for these purposes by the newspaper industry.

Since the days of gas lighting the industry has been continuously competitive with other fuels. However, the gas industry has always displayed ability to adapt itself to changing conditions by achieving additional success in the competitive field and, undoubtedly, will continue to do so.

1937 SCHEDULE OF A. G. A. ADVERTISEMENTS*

Saturday Evening Post and Women's Magazines

Appearance Date	*Publication*	*Issue*	*Caption*
December 29	Saturday Evening Post	January 2	"So You Want To Put More Health in Meals"
January 10	Ladies' Home Journal	February	"Gas Introduces Double-Quick Broiling"
January 15	Woman's Home Companion	February	"Gas Introduces Double-Quick Broiling"
January 20	American Home	February	"Gas Introduces Double-Quick Broiling"
February 9	Saturday Evening Post	February 13	"So You Want a Shorter Kitchen Day"
February 10	McCall's	March	"One Recipe"
February 20	American Home	March	"One Recipe"
February 25	Good Housekeeping	March	"One Recipe"
March 2	Saturday Evening Post	March 6	"So You Want a Modern Kitchen"
March 10	Ladies' Home Journal	April	"One Recipe"
March 15	Woman's Home Companion	April	"One Recipe"
March 30	Saturday Evening Post	April 3	"So You're Going To Move"
April 10	McCall's	May	"Flavor-Seal Your Roasts"
April 20	American Home	May	"Flavor-Seal Your Roasts"
April 25	Good Housekeeping	May	"Flavor-Seal Your Roasts"
May 4	Saturday Evening Post	May 8	"So You're Going To Be Married"
May 10	Ladies' Home Journal	June	"Flavor-Seal Your Roasts"
May 15	Woman's Home Companion	June	"Flavor-Seal Your Roasts"
June 10	McCall's	July	"A Girl of 12 Baked This Cake"
June 20	American Home	July	"A Girl of 12 Baked This Cake"
June 25	Good Housekeeping	July	"A Girl of 12 Baked This Cake"
July 10	Ladies' Home Journal	August	"A Girl of 12 Baked This Cake"
July 15	Woman's Home Companion	August	"A Girl of 12 Baked This Cake"

Professional and Trade Papers

Appearance Date	*Publication*	*Issue*	*Caption*
January 1	Architectural Forum	January	"Half the Selling Job"
January 1	American Builder & Building Age	January	"Half the Selling Job"
January 1	Domestic Engineering	January	"This $45,000 Beefsteak"
February 1	Plumbing & Heating Trade Journal	February	"This $45,000 Beefsteak"
February 1	Architectural Forum	February	"Only Gas Can Do So Much"
February 1	American Builder & Building Age	February	"Only Gas Can Do So Much"
March 1	Architectural Forum	March	"Let Gas Insure the Future"
March 1	American Builder & Building Age	March	"Let Gas Insure the Future"
March 1	Domestic Engineering	March	"Thousands of Women—"
April 1	Plumbing & Heating Trade Journal	April	"Thousands of Women—"
April 1	Architectural Forum	April	(Advertisement to be prepared)
April 1	American Builder & Building Age	April	(Advertisement to be prepared)
May 1	Architectural Forum	May	(Advertisement to be prepared)
May 1	American Builder & Building Age	May	(Advertisement to be prepared)
May 1	Domestic Engineering	May	"There's Profit for You"
June 1	Plumbing & Heating Trade Journal	June	"There's Profit for You"
June 1	Architectural Forum	June	(Advertisement to be prepared)
June 1	American Builder & Building Age	June	(Advertisement to be prepared)
July 1	Architectural Forum	July	(Advertisement to be prepared)
July 1	American Builder & Building Age	July	(Advertisement to be prepared)
August 1	Architectural Forum	August	(Advertisement to be prepared)
August 1	American Builder & Building Age	August	(Advertisement to be prepared)

* Does not include schedule of industrial and commercial advertisements sponsored by the Industrial Gas Section.

Tie Up and Cash In

New A.G.A. Slide Film Shown at Regional Meetings throughout Country

Below are reproduced a few pictures and some of the dialogue from this instructive twenty-two-minute production.

The power of the printed word has been unleased. The presses of national magazines are now working for the Gas Industry. Brilliant, dramatic, informative full-page advertisements in four colors are appearing month after month in carefully selected media.

Ads in these magazines attract attention to the usefulness and modernity of today's gas appliances. Other comments result—"High speed grills that broil in half the time—that's interesting." "Cuts down time in the kitchen—?" "I never realized that advantage of Gas before."

Ninety million messages spread wide through the medium of national magazines that go out monthly to fourteen million homes throughout the nation and stimulate such comments as these in favor of Gas.

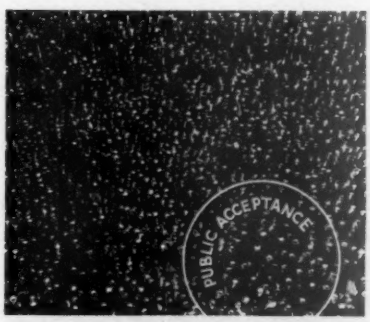
Mrs. Smith: "Look what these modern gas ranges will do."
Mr. Smith: "Is gas your idea of modern?"
Mrs. Smith: "It certainly is when I realize all of its advantages."
And so she writes for the recipe book.

"Have you noticed these ads, Jane?"
"Yes, what a perfectly luscious-looking pie. You know I never realized before that gas ranges give you such miraculous results."

"Please send me 'Controlled Cooking.'"
"I would like to have the recipe book."
"I would appreciate your sending me the recipe book, 'Controlled Cooking.'"
"Kindly send two copies of the book."

This recipe book excites comments, all leading to a greater appreciation of gas as a fuel. Women are intrigued first by the convenient arrangement of the book, then by the recipes and then by its descriptions of modern gas appliances. Husbands find it interesting, too. It serves a further purpose when it arouses their imaginations in favor of gas.

Mrs. Smith: "And what are you doing with my recipe book, John?"
Mr. Smith: "I'm not aiming to butt into your department, Mary—just reading about some of these other gas appliances. For instance, the new automatic heaters that give all the hot water you want whenever you want it. And imagine what it would be like to have a furnace that you just light at the beginning of winter and then forget!"
Mrs. Smith: "And no worry about ordering fuel in zero weather. No ashes to carry out and no dirt tracked up."



A certain percentage of the people will buy new gas appliances directly because of this campaign. Certain others will remain satisfied with their present equipment—useful appliances which they had considered throwing out in favor of competitive fuels—"But **the American Gas Association National Campaign is only the Beginning."**
In this background of forceful, prestige-building messages—creating greater public acceptance for gas—lies your opportunity to CASH IN.

A Dramatic Explanation

Film shows ways for making national advertising more effective

Duplicates of this twenty-two minute production are now available at nominal cost to all companies interested in promoting the use of gas.

High spots from the film and dialogue that goes with it are reproduced below to indicate the way in which this production emphasizes the effect of tying in with a national campaign—an effort which is considered so important by every experienced national advertiser. What you do in this respect creates a positive link between national stimulation and local merchandising.

Dozens of items of ready prepared tie-up material for localizing the national drive, for activating the interest which the national campaign stimulates are now available through A. G. A. headquarters. This material properly used will serve to focus the national campaign directly in the communities you serve.

How can you get the most from this campaign? Tie-up! Borrow from this background of ninety million color pages, localize their power, intensify their effectiveness.

For example, suppose you use this slogan in your local newspaper ads.

Mr. Jones: "There's nothing like Gas for—Say, Gert, how about an automatic gas water heater? We never have enough hot water."

Mrs. Jones: "You know I'm all for a new water heater but I didn't know the budget would stand it."

Mr. Jones: "Sure we can swing it. I'm going to have a talk with the plumber who did the work on this house."

Or if you use one of the ready prepared reminders:

First Man: "Hey, Schultz, guess I'd better tear out this ad before I get home. If my old lady sees it she'll be getting after me again."

Second Man: "You'd better let her, Murphy. What gives better food is a good investment."

Mr. Brown (looking at illuminated sign in show window): "How about taking a look at those new gas ranges right now?"

Mrs. Brown: "Have we got time? Goodness knows we've been talking about it long enough!"

Woman (Holding penny folder in which she received change when she paid her gas bill): "Did you get one of these too?"

2d Woman: "Yes, mine told about the modern gas ranges."

Man (reading newspaper showing gas company ad including elements for national campaign): "Still hankering to get rid of the gas range, Mabel?"

Mabel: "I've been meaning to talk to you about that. I've seen so many ads lately which say there's nothing like gas for cooking. I've seen them in magazines, newspapers—everywhere."

Salesman (Apparently talking to customer who is examining A. G. A. price tag): "Costs less than you thought, doesn't it? May I tell you about these ranges?"

Customer: "Yes, thank you. My husband and I are very much interested."

Ever widening public acceptance! You have just seen the way it can be made to grow. The national campaign made more effective by employing elements from it in your local newspaper and other advertising.

Out of the Mystery Chef's Mailbag

Received one of your most wonderful cook books at the gas company where I pay the bills and must say cannot thank you enough for the great help it serves in so many ways. The most inexperienced person can produce a marvelous dinner or luncheon. I am certainly pleased to be the owner of your *great* book.

Mrs. T. H.
Mamaroneck, N. Y.

I am very much interested in your program, and I always listen in for your wonderful program and explanation of recipes and above all the broadcast concerning gas as I agree with you first, last and always, it will be gas for our home. I have been a cook for many years and know that what you say about gas is absolutely true.

Mrs. S. W.
Scranton, Pa.

I have obtained one of your priceless cook books from my gas company and I cannot find praise enough or tell you how much the book and its recipes mean to me. Thank you again and again for making cooking a pleasure.

Mrs. P. B.
Brooklyn, N. Y.

I am one of the many busy housewives who listen to your programs, appreciate them from many viewpoints and after considering all the good you must do to so many thousands like myself, am sure my gratitude should be forthcoming.

I have one of your cook books and appreciate your simple and economical recipes. Through listening to you my 10-year-old boy has become quite enthused about cooking. I feel the urge has always been there but he has been skeptical about it being a man's job.

Your philosophy is grand, helping us want to make Home a place to be remembered.

Mrs. E. P. S.
Portland, Me.

My experiences in cooking and canning have been many and varied. I am 76 years old and after many trials of different methods of preserving I am convinced that your method is the best, simplest, quickest and in all ways the most perfect. I am almost blind, wholly so in one eye and 7 tenths in the other, very badly crippled with rheumatism but still persist in doing what I can of my cooking, superintend everything and have used many of your recipes as I always listen to your broadcasts.

Mrs. G. W. A.
Farmington, N. H.

I had been listening to sketches over WJZ until recently one of the sketches was transferred to WEAF and that is how I chanced to hear one of your broadcasts. What a lucky day for me! I did as you suggested. I went to my gas company and asked for your cook book "Be an Artist at the Gas Range." I cannot tell you in words how much I appreciate your book. I was amazed when I boiled my corn for only 3 minutes and it was as tender as could be and the same applies to the string beans, cabbage and all the other recipes I have tried according to your method.

Everywhere I go and the subject of cooking arises I just can't help telling my friends of your book and how to get it. From now on I am going to be a constant listener to your broadcasts and I do wish you continued success.

Mrs. G. B.
Baldwin, N. Y.

This is one of the most delightful cook books it has been my fortune to use. And as for gas!—No one could buy me anything else. My new gas range and refrigerator are unsurpassed.

Mrs. M. E. D.
Portland, Oregon

I have been using a copy of your "Be an Artist at the Gas Range" and want to tell you how much we enjoy it.

It is, without exception, the best cook book I have ever used. Many cook books call for so many ingredients that the recipes are not at all practical or economical for the average housewife but your book takes so many everyday dishes and turns them into such inviting ones. I have yet to have a failure with one of your recipes. I have found so many company dishes among your recipes. Too much cannot be said for this book.

Mrs. H. C.
Binghamton, N. Y.

I have long listened to your radio broadcast and have found it the only one which gives recipes that taste well,—really delicious. I am finicky when I eat. I like something different regardless of expense. Now, I want to make about four cakes a day for my Dad's restaurant and an equal amount of pies; also some odd pudding which is not found on the every-day lunchroom menu. Can you help me?

Miss A. K.
Washington, D. C.

The Mystery Chef is shown during his Thanksgiving dinner to NBC radio announcers, twenty-six of whom attended the dinner which was served at intervals from 6 P.M. to 2 A.M. In the picture are, left to right: Carver Livingston, Milton J. Cross, Ray Diaz, Ben Grauer and the Mystery Chef

Industrial and Commercial Gas Advertising—A Valuable Sales Tool

By J. P. LEINROTH

Chairman, Advertising Committee, Industrial Gas Section

WE in the gas industry who recall the older methods of using gas for industrial and commercial purposes, as these methods existed only a few years ago, can readily appreciate the value of the progress and vastly increased acceptance of gas in these fields.

We know, too, that this increased acceptance of gas, largely at the expense of other fuels, is due primarily to progressive and continuous research and development that have brought about more efficient equipment, improved processes and new methods for using gas.

There is another fact that is equally well known, but we wonder if its significance is fully realized—The fact that most of this new progress in gas utilization has been made during the past five years, to meet the demands of industry and commercial establishments that were faced with the necessity for reduced costs, increased efficiency and better quality so that they could meet the highly competitive situations during these lean years.

Because there was no industry advertising of gas for industrial and commercial purposes during this period and because publicity programs reaching these fields were rather limited due to the fact that many trade paper publishers greatly reduced the number of their editorial pages, the story of the new development in up-to-date gas utilization was told only very sketchily to the industrial and commercial fuel markets.

The gas industry, therefore, finds itself in the position of having developed a "product with many merits" during a time when the market was lean. Now, with a rich market opening up, the task of utmost importance is to tell that market the story of the "product" we have to sell—Gas, for industrial and commercial uses.

The telling of this story through business and trade paper advertising is the objective of the advertising campaign now being sponsored by the American Gas Association, Industrial Gas Section, in connection with the national advertising campaign under the supervision of the Committee to Conduct National Advertising.

Industrial and commercial advertising is making the prospect realize more definitely than ever before that the gas industry is alert and progressive and modern; that through its research and development activities, it has developed important new information about gas and gas utilization; that out of this new knowledge of gas has come new and more efficient equipment; and that this new information and new equipment not only make gas available for many industrial and commercial processes on a more economical basis than ever before, but also make possible definite improvements in quality of product and substantial reductions in cost.

Standard element which appears in all advertisements of the industrial and commercial series

In addition, the advertising constantly sells the merits of gas as a fuel—its flexibility; its controllability as to both temperature and furnace atmosphere; its cleanliness; its instant availability and its quick heating character; its suitability for a wide variety of applications; its saving in storage, handling, space and labor costs; and its over-all economy and efficiency.

All these arguments for industrial gas culminate in one appeal which is of universal interest . . . . *profits.* The advertisements show how gas gives many advantages over other fuels, and how the *results* of gas utilization help make profits.

This phase of the national advertising comprises, in effect, eight separate and distinct campaigns, each directed to a separate industrial or commercial field. The fields covered are metal working, ceramic, enameling, glass, baking, food processing, commercial cooking and beauty parlor. Each separate campaign features advertisements showing specific types of modern gas equipment of interest to heat users in the field covered—telling how gas used in modern equipment is making profits for the user.

Fourteen leading industrial and commercial publications are being used, as follows:

American Hairdresser
American Restaurant
Bakers' Helper
Bakers' Weekly
Ceramic Industry
Food Industries
Glass Industry
Hotel Management
Industrial Gas
Iron Age
Metal Progress
Metals and Alloys
Modern Beauty Shop
Steel

These publications were chosen after a careful analysis of all publications serving these fields, and they give maximum coverage. The combined circulation during the twelve months' duration of the campaign directs a total of 1,725,989 full-page gas advertisements to persons specifically interested in the

industrial and commercial applications of heat.

Specific advertisements directed to each of the selected fields carry messages of pertinent interest to individuals in those fields. For example, advertising directed to the metal working industry describes the advantages of gas for carburizing, normalizing, annealing, galvanizing, melting, forging, drawing, etc., and shows how gas makes controlled atmospheres practical and economical for many heat-treating operations throughout this very important industry.

Advertisements directed to beauty parlors emphasize the advantages of gas for hair drying, water heating, refrigeration, space heating and air conditioning. And bakers everywhere see gas advertisements telling them why gas is the better fuel for baking. Likewise, the food industries are reading advertisements prepared especially to tell them of the growing use of gas for the many heating processes throughout this vast industry. And still another series informs hotels and restaurants about the many ways that gas is becoming more and more the leading commercial cooking fuel.

In every one of these series definite statements are made telling the reader about other users in his field who have profited by using gas; how up-to-date equipment, new knowledge of gas utilization and new methods are resulting in better quality, improved results, greater savings, lower over-all costs, new profits, etc.

Industrial Advertising Timely

The industrial and commercial phases of the advertising campaign this year are particularly timely. In the first place, industrial and commercial establishments everywhere are today on a sounder financial basis than they have been for many years. Their business is better, profits are larger, and they have more money to spend. Advertising, therefore, is reaching a market that is more responsive than it has been for some years. This, of course, means a greater opportunity for producing results.

In the second place, today's trend toward modernization of plants and equipment—a trend which has already attained considerable momentum—assures a fertile market for gas. Advertising is being used effectively to point out how gas can be used in modernization programs, to cut costs and improve quality.

The gas industry at present enjoys a large and profitable load in the industrial and commercial fields. To do no more than hold that load against the attacks of competitive fuels requires eternal vigilance and keen and aggressive selling. Advertising is helping in this direction.

To expand that load in new fields and in new applications requires extra effort. Here again advertising is helping, because there are many industries to which the story of gas has never been properly or adequately told but are now, for the first time being reached by this business and trade paper advertising. There are many present users of gas who could profit by modernizing their plants with some new and more efficient gas equipment developed during the past few years. These users are learning about these

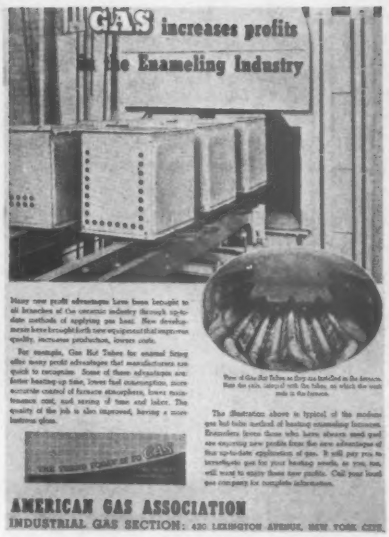
---

One of a series of advertisements appearing in Steel, Iron Age, Metal Progress, Metals and Alloys *and* Industrial Gas. *It tells how the use of gas in the automotive industry in Detroit increased 105% during the past few years, while the use of all industrial fuels combined increased only 5% in that locality*

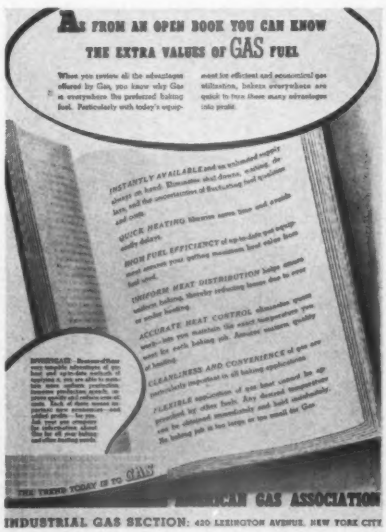
Throughout the vast and important food industry gas is used for scores of process heating jobs. This advertisement points out that for each job gas is doing the job more efficiently, more economically for thousands of users. Food Industries *magazine, with its circulation of more than 37,000 copies, is used to reach this important industry*

This advertisement emphasizes that there is efficient and up-to-date gas equipment designed for every specific cooking job. Also that this modern equipment is economical to operate, does a better job, and helps to make profits for users. A series of these advertisements is appearing in American Restaurant *and* Hotel Management

When you talk dollars and profits to industry, you are talking on a vital subject—close to every business man's heart. The above advertisement tells the Glass Industry how up-to-date gas equipment is making money for many manufacturers in this industry


GAS increases profits
Enameling Industry
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION: 420 LEXINGTON AVENUE, NEW YORK CITY

The use of gas hot tubes for enameling—a development that is comparatively new—is featured in this advertisement, and attention is called to the fact that this user had always used gas, but has found that this new gas equipment is doing a better job, more economically. This advertisement appears in Ceramic Industry


AS FROM AN OPEN BOOK YOU CAN KNOW
THE EXTRA VALUES OF GAS FUEL
INSTANTLY AVAILABLE
QUICK HEATING
HIGH FUEL EFFICIENCY
UNIFORM HEAT DISTRIBUTION
ACCURATE HEAT CONTROL
CLEANLINESS AND CONVENIENCE
FLEXIBLE
THE TREND TODAY IS TO GAS
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION: 420 LEXINGTON AVENUE, NEW YORK CITY

While this advertisement is general, it is timely because of certain advancements made in equipment using other fuels. It points out the many advantages of gas, and at the same time shows how the results of modern gas baking equipment mean profits to bakers. It is one of a series currently appearing in Bakers' Weekly *and* Bakers' Helper

PROFITS FROM SAVINGS
with modern Gas hair dryers
"We're saving $50.00 a month . . . that's $600.00 a year. You can dry 6 or more heads for what you are now paying to dry one."
AMERICAN GAS ASSOCIATION
INDUSTRIAL GAS SECTION: 420 LEXINGTON AVENUE, NEW YORK CITY

This gas advertisement appeals to the beauty parlor operator's desire to make profits by telling how other operators increase their business and earn extra profits by using speedy, up-to-date gas hair dryers. A series of these advertisements is currently appearing in the leading beauty parlor publications, Modern Beauty Shop *and* American Hairdresser

new developments through the industrial and commercial gas advertising.

Local Tie-Ins

It can readily be seen that there are many opportunities for this advertising to work for its sponsors. One very important way has recently been pointed out by the committee. That is the effective local circularization of reprints of the advertisements. It is suggested, for example, that gas companies send letters to their industrial and commercial prospects enclosing with these letters reprints of industrial gas advertisements that are of special interest to the prospect or customer. This plan has frequently been used successfully in the sale of gas and gas-fired equipment. One manufacturer, for instance, got his first sale of a certain type of gas-fired equipment to a large, well known automobile manufacturer as a result of an inquiry coming from such a mailing. Prior to the inquiry, the equipment manufacturer's salesmen were not even permitted to tell their story to the proper parties, yet the inquiry came from a high official. That sale led to a large and valuable gas load. Scores of other sales have resulted from the intelligent use of this type of promotional material.

The Advertising Committee of the Industrial Gas Section earnestly recommends that gas companies take every advantage of this advertising to help their own local situation, and to get the most value from each advertisement that is directed to customers or prospects in his locality.

NATIONAL ADVERTISING GETS ANOTHER BOOST

Starting with the February issues of Better Homes and Gardens, House Beautiful, House and Garden, and Retailing, the George D. Roper Corporation, Rockford, Ill., will initiate a program of national advertising during 1937. In advising the Committee to conduct National Advertising of this new campaign, W. E. Derwent, vice-president of the company, states, "I am convinced that only by a cooperative effort on the part of all of us interested can we make the most use of national advertising in behalf of the gas industry."

With the inauguration of this new advertising by the Roper organization, there will be six national programs backed by the manufacturers of gas appliances. These, together with the A. G. A. national program, give the gas industry the largest volume of national advertising in its history.

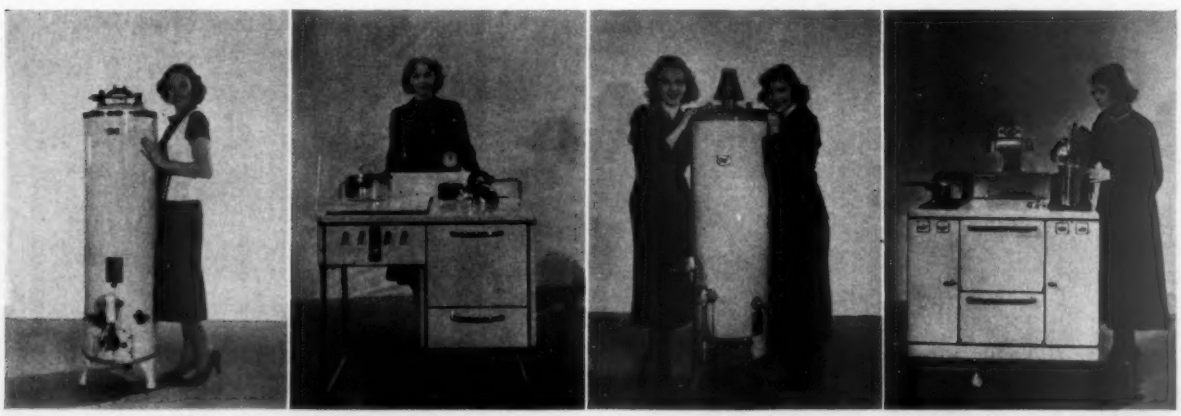
The industrial and commercial phases of the National Advertising Campaign are supervised by the Advertising Committee of the Industrial Gas Section composed of: J. P. Leinroth, chairman, Public Service Electric & Gas Co., Newark, N. J.; F. B. Jones, vice-chairman, Equitable Gas Co., Pittsburgh, Pa.; C. Cassidy, The Peoples Gas Light & Coke Co., Chicago, Ill.; R. M. Keeney, The Connecticut Light & Power Co., Hartford, Conn.; Henry Obermeyer, Consolidated Edison Co. of New York, New York, N. Y.; T. H. Spain, Public Service Electric & Gas Co., Newark, N. J. This committee is responsible, in matters of national advertising, to the Committee to Conduct National Advertising, T. J. Strickler, chairman and Henry Obermeyer acting as liaison officer. Ketchum, MacLeod & Grove, Inc., of Pittsburgh, Pa., are the advertising agents.

Gas Water Heater Sales Contest Starts Feb. 1

ANNOUNCEMENT has been made by R. E. Williams, chairman of the A. G. A. Water Heating Committee that the second national automatic gas water heater sales contest sponsored jointly by the American Gas Association and the water heater division of the Association in Gas Appliance and Equipment Manufacturers will be held February 1 to September 30, 1937, with option to start on January 1 and end August 31 for those companies desiring to do so. Enthusiastic responses received from water heater salesmen, gas companies and water heater manufacturers at the close of the 1936 contest resulted in a decision to sponsor a second contest.

This year's campaign will be called the "Golden Faucet" contest. No registration fee will be charged. Cash prizes for water heater salesmen have been greatly increased in number and value. More than $18,000 will be distributed to 1505 winners. Twenty-one company awards will also be made.

A complete prospectus of the contest giving full particulars has been sent to gas companies. All companies enrolling in the contest will receive a comprehensive portfolio of advertising and display aids, and other helpful suggestions for promoting the sale of gas water heaters during 1937.



Featured players in the Metro-Goldwyn-Mayer motion picture production "Born To Dance" are shown here with modern gas appliances. In the picture are, left to right: Margaret Lynam, Edna Callahan, Claire Myers and Doris Davenport (twice)

Advertising and the Story Back of the Laboratory Approval Seal

By FRANKLIN R. WRIGHT
A. G. A. Testing Laboratories

F. R. Wright

THE gas industry of the United States is a great agency of public service, supplying a commodity that is vital to the health, comfort and well-being of more than 63 million people. We have perfected our products and distribution equipment and processes, and have developed the finest line of cooking, heating, air conditioning and refrigerating equipment that is to be found anywhere in the world. We must be ever on the alert, however, to discover new means of utilizing our product and of improving our service. Furthermore, we must combat competition, create good-will, and strive for further markets through continuous publicity and advertising if we are to extend our business or even hold that which we now have.

Need for Publicity

In spite of the tremendous strides that have been made in beautifying and perfecting gas appliances, our industry has experienced keener competition from most angles during the past few years than at any time in the history of our business, with the possible exception of the competition for the lighting load encountered at the turn of the century. It is believed that a great deal of heating, cooking, air conditioning and refrigeration business that formerly went to oil, coal or electricity could have been saved for gas by more extensive and effective advertising on the part of our industry. Furthermore, our industry has suffered much in the past from unjust criticism and attack, largely, I believe, for the reason that we have failed to apprise our customers and the public fully regarding our business and the services which we are rendering.

It is, therefore, indeed gratifying that our industry is now cooperating in a national advertising campaign which has the support of practically every utility company in the United States. This, coupled with the cooperative "Mystery Chef" radio program which is being broadcast in the East and on the Pacific Coast, and the publicity and advertising activities of individual companies will, I feel, present far-reaching beneficial results. There are, however, certain additional steps that should and are being taken to assist in promoting this activity which, I feel, deserve the united support of both our gas company and manufacturer members.

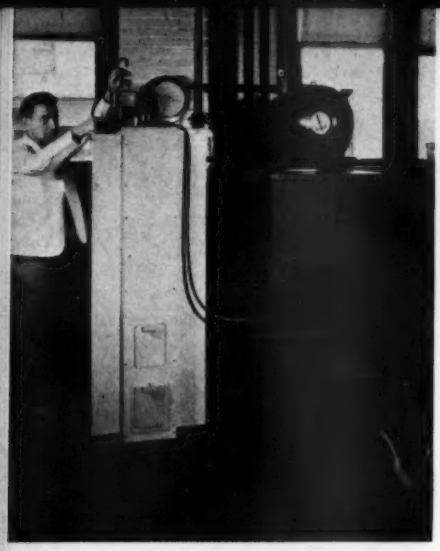
It seems that our industry has been overlooking one of its strongest weapons of defense against criticism of its service and of offense for overcoming prejudice and competition. It has a strong sales ally that has not been utilized to a sufficient degree in promoting the sale of gas and gas appliances—a good-will producing agency that has no counterpart in any other industry. It would seem that many advertising managers of gas companies and probably of manufacturing concerns also are not familiar with the general details of the Laboratories' activities, what they have meant to the industry during the past 11 years, nor how they can be used effectively in publicity and advertising for their own individual companies.

Good-will created and the value of the Laboratories from a sales as well as a general standpoint cannot be overestimated. Women's clubs, home economics associations and other consumer groups, insurance interests, women's magazines and authors generally have come out openly and praised the gas industry's program of self-regulation in the public's interest. Universities, colleges, and high schools in hundreds of cases have secured copies of the Laboratories' gas appliance and accessory standards for use in classes on consumer goods and equipment, and in home economics courses. Many textbooks, which are now being used in colleges and high schools, include reproductions of the Laboratory Seal of Approval and explanations of the industry's appliance testing and approval program.

Benefits to Consumer

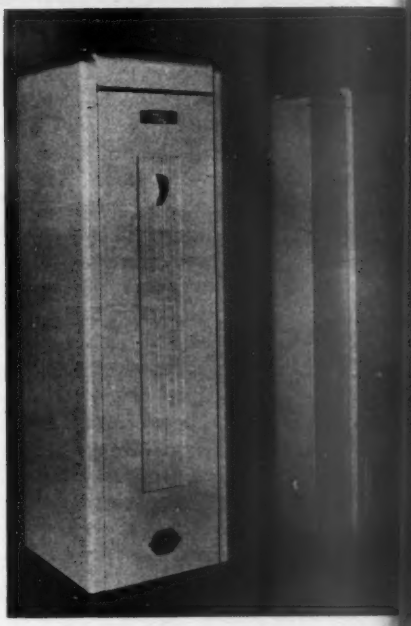
The benefits of the Laboratories' program to the customer have been many, among which are: (1) the elimination almost entirely of shoddy and unsafe appliances from the market; (2) extensive improvements both in performance and constructional features such as strength, durability and convenience of all classes of gas-burning appliances offered for sale to the public; (3) a reliable and authoritative national guide in purchasing appliances and accessories; (4) better gas service through improvements resulting from research in gas production, distribution and utilization methods; (5) higher cooking and heating efficiencies, and (6) greater durability, convenience and all-around improvement in gas service. These are things of which the customer should be apprised and which he or she wants to know.

Consumer groups and women's magazines are frequently requesting information concerning the Laboratories'



Thorough tests on all gas appliances insure complete combustion

Testing the chimney draft resistance of a warm air circulating type space heater



Automa gas wa heaters l appear

Modern house heating boilers, illustrating the trend in design of central heating gas appliances

Below—Testing the efficiency of a warm air furnace

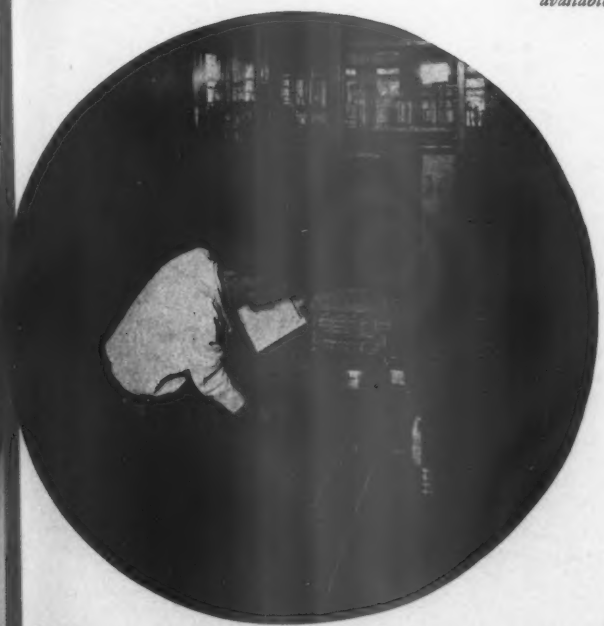
Even distribution of heat in a gas range oven so necessary to good baking is insured by actual cooking tests

Every part of an appliance is carefully checked against the approval requirements to insure proper construction

Insulation is checked to insure a coo kitchen by a thermo-finger and thermocouple

gas water
w appearance

A few of the numerous designs available in modern gas ranges



No overheating on floors or walls with approved radiant heaters

Below—Testing the strength of gas range bodies, frames and doors

testing and approval program to pass on to their members and subscribers. *Ladies' Home Journal* went so far as to publish material which the Laboratories furnished in the form of booklets on "Gas Ranges," "How To Buy Room Heaters," etc. These booklets were based upon the approval standards and were made available to the public at a nominal cost. This magazine said, in discussing the industry's testing and approval activities, that "National standards, specifications and requirements for many types of products have taken the purchasing of appliances, equipment and merchandise out of the field of guesswork and placed it in the field of certainty. The American Gas Association is one of the leading trade associations to adopt national standards. . . . . Its symbol serves as a guide to everyone interested in the purchase of gas appliances." Furthermore, several magazines of general distribution have requested the Laboratories to furnish material regularly for the home economics sections of their publications.

Appliance Yardstick

These and other similar statements and requests by consumer publications and groups indicate the interest of consumers in having a yardstick by which they can judge products to be purchased. For example, Miss Aubyn Chinn, while Chairman of the Home Economics in Business Section of the American Home Economics Association, said in a radio talk: "The customer is always glad to know any simple standard by which she can judge, and . . . . likes to read in advertising the facts behind that standard. I am thinking of the American Gas Association. . . . . Their emblem represents the judgment of the best engineers in the field. The customer knows she can trust their judgment." It seems to the writer, therefore, that publicity and advertising of the Laboratories' program will not only be welcomed by consumers but will fill a distinct need.

When the Federal Government considered instituting a program leading to the testing and certification of consumer goods and requested a report from the interested departments of the Government on this question, the department of home economics reported to the President that the gas industry had standards for gas appliances and had been for some 10 years testing and certifying equipment in accordance with published American Standards, the development of which were participated in by the U. S. Bureau of Home Economics, American Home Economics Association, National Bureau of Standards, U. S. Bureau of Mines, U. S. Public Health Service, National Safety Council and numerous other general interest groups in addition to producers of equipment and utility companies.

Consumer Protection

In an address before the Chattanooga Chamber of Commerce in 1934, David E. Lilienthal, head of the Tennessee Valley Authority and the Electric Home and Farm Authority, stated in part "Consumers should be protected against inferior electric appliances through the medium of a consumers' laboratory to be operated under Government auspices. The laboratory should also conduct research looking toward the improvement of designs and new designs which will make electric appliances best adapted to the needs of the average family. The mark of approval of such an agency may well become sufficiently important that few customers will buy equipment unless it has been approved by such an agency."

In an editorial discussing "The Blue Star in Advertising" the *Gas Age-Record* for November 17, 1934, referred to the above statement by Mr. Lilienthal and said "If such a Government agency is created, the gas industry may find it necessary to publicize the A. G. A. Testing Laboratory and its Approval Seal far more than has been done in the past. To prepare for such an eventuality, we urge all possible publicity regarding the Cleveland Laboratory, carrying this story to women through their magazines and to all customers by newspaper stories and advertising. Action on the use of the 'Blue Star' in advertising may be postponed, but we feel that the Laboratory itself must be popularized as soon as possible."

The Testing Laboratories have done considerable on their own initiative in bringing their activities to the attention of consumer groups, women's clubs, home economics associations and to the public generally, all of which should assist our industry materially in promoting good-will, breaking down prejudices and sales resistance, and paving the way for greater sales in gas and gas appliances. Children, high school and college students, who in a few years will be the purchasers of gas or some other form of energy for household, industrial, and commercial uses, need to know what type of service is the best and most economical to use. What they learn in this way is also imparted to their parents and others. The Testing Laboratories have, upon request, supplied material in recent years to an average of from approximately 5 to 10 colleges, universities and high schools each month. This material has included copies of standards and explanatory booklets on appliance testing, inspection and research activities.

Articles and news releases have been written by members of the Laboratories' staff and published in many magazines of wide circulation and in several metropolitan newspapers. Exhibits have been prepared and erected at many expositions, home economics conventions and other places of public notice to inform the public of the industry's appliance testing and approval program, which means better household appliances for their use and more economical and satisfactory gas service.

Seal as Sales Aid

Important as this has been, it is only a drop in the bucket when compared to what is necessary and desirable in bringing this most valuable sales asset to the attention of all or even a majority of the people. The public generally does not even know that the Laboratories exist or that the gas industry dedicated itself, through the establishment of the Testing Laboratories some 11 years ago, to a program of self-regulation in the public's interest and has strictly and unfalteringly made good on that promise ever since.

It is gratifying to report that a start has been made by the industry in the right direction through a number of channels which should prove effective. The first of these, which is now under way, is the displaying of the Labora-

tory Approval Seal on all the full-page color advertisements prepared in conjunction with the national advertising campaign and which are being published regularly in the *Saturday Evening Post, Ladies' Home Journal, Woman's Home Companion, McCall's, Good Housekeeping,* and *American Home.* Coupled with this is the showing of the Approval Seal in the cook books given away to readers of the advertisements who request them.

National Use of Seal

The Approval Seal, accompanied by the statement "Be sure the gas appliances you install carry the Blue Star Seal of the American Gas Association Laboratory" is also being used in the full-page advertisements being published in *Architectural Forum, American Builder and Building Age, Domestic Engineering,* and the *Plumbing and Heating Trade Journal.* Furthermore, a discussion of the Laboratories and a display of the Laboratory Approval Seal is included in all of the cook books being given away in conjunction with the "Mystery Chef" radio program, over a million copies of which have been distributed. These are certain to focus the interest of customers in numerous cases on the Approval Seal and would seem to make a prominent display of the Seal on appliances necessary and extensive advertising of the story behind the Seal desirable.

In April, 1936, the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, authorized the Laboratories to proceed with the preparation and distribution to appliance manufacturers of gummed labels of the Approval Seal, which could be pasted on the exterior surface of approved equipment, and tags of the Seal for attachment to door handles of ranges and other conspicuous parts of appliances. These were made available about the first of September, and are now being used by a great many appliance manufacturers in addition to the permanent Approval Seal attached to the name plates of appliances.

Over 500,000 tags and labels have already been purchased by manufacturers and are now making their appearance on appliances displayed on sales floors, in show windows, etc. Salesmen are urged to take advantage of this cooperation on the part of the appliance manufacturers to call attention to this Seal and the things it stands for by way of insuring better appliances. With the Seal showing in all the national advertisements, its prominent display on equipment should enable an effective tie-in with the advertisements. These labels and tags are placed on the appliances by manufacturers and they should be retained on the appliance on the sales floor and until the appliance is installed in the customer's home. The customer can readily remove the tags or wash off the labels, but in doing so she is impressed with the fact that the appliance is approved and will undoubtedly not only remember the Laboratory Approval Seal but tell her neighbors and friends about it.

Plan Book Being Prepared

One of the most important recent developments in promoting the use of the Laboratories' story and the Blue Star Seal in advertising was the organization of a standing Committee on Publicity of the Laboratory Approval Seal, headed by B. J. Mullaney, vice-president of The Peoples Gas Light and Coke Company and former president of the American Gas Association. This committee, which is made up of some of the leading utility and appliance manufacturing executives of the country representing both the American Gas Association and the Association of Gas Appliance and Equipment Manufacturers, recommended at its first meeting, in New York on September 29, the preparation of a plan book on advertising the Laboratories, their program and the Approval Seal, for use by gas company and manufacturer advertising departments, gas appliance dealers and others concerned with gas appliance merchandising and promotional activities. A request was also made to the Association's Executive Board for the approval of the plan and the appropriation of funds to prepare the plan book, which was approved by the Board at the meeting of that body on September 30. Work on this plan book, which is being prepared by the Committee on Publicity and Advertising, headed by Henry Obermeyer of the Consolidated Edison Company of New York, Inc., is now under way.

A further activity which will tie in effectively with those outlined above is the preparation of a manual for use by gas appliance salesmen and for distribution to prospective purchasers of appliances based on the approval standards and the Laboratories' approval program. The preparation of such a manual or series of manuals

(Continued on page 39)

New McCarter Award Made Available

T. N. McCarter

AWARD of an additional certificate in connection with the McCarter Medal in recognition of assistance contributing to the successful application of the Schaefer prone pressure method of resuscitation was approved by the Executive Board of the American Gas Association at its meeting in New York, December 9.

This action was taken on recommendation of the Accident Prevention Committee and with the approval of Thomas N. McCarter, president of the Public Service Electric and Gas Company, Newark, N. J., donor of the McCarter Medals and Certificates. Such a certificate makes possible the recognition of a person who rescues a victim of asphyxiation but does not participate in the actual resuscitation.

Since the McCarter Medal was first established in 1923 through the generosity of Mr. McCarter, 545 men and women employed by the gas industry have been awarded this medal for saving a life; 28 have received bars for repeating the performance or saving a second life; two have saved three lives, and in recognition of repeated bravery, each has received a McCarter Medal and two bars, while 227 certificates have been awarded to those assisting in resuscitations by the prone pressure method.

In establishing the McCarter Medal, Mr. McCarter had two purposes in mind. The first was to provide suitable recognition for acts of heroism by members of the gas industry. The other was to stimulate interest in and a knowledge of the prone pressure method of resuscitation. The increasing number of applications and widespread interest in the awards is evidence that these purposes have been accomplished. It is expected that the establishment of this additional certificate will further stimulate interest in the prone pressure method of resuscitation.

Comfort from Gas—All Winter, All Summer

By C. A. McKINNEY

United Gas Public Service Co., Houston, Texas

REALIZING the future possibilities of summer air conditioning with gas and the need for cooperation between the manufacturer and the gas industry in producing improved and tested gas burning equipment, the United Gas System, in September, 1935, installed a complete gas summer air conditioning system in the Production Office Building at Beeville, Texas.

Equipment in this installation includes a Bryant-Silica Gel gas-operated dehumidifier in connection with a freon condensing unit for cooling, a gas-engine-driven generator in place of motors for driving the compressor and miscellaneous equipment, and an atmospheric type cooling tower.

Comparisons of several combinations of air conditioning systems including the dehumidifier and generator with variation in compressor prime mover were studied. Each combination was compared with and without atmospheric and forced draft type cooling towers. The steam jet vacuum method and straight electric refrigeration with a freon condensing unit were also compared with regard to investment and operating costs.

All factors considered, the present system was selected because it showed a substantial saving in operating cost and afforded a complete gas summer air conditioning system utilizing the silica gel dehumidifier and afforded great flexibility with simplicity in control mechanism. It was readily adaptable to the previously installed central warm air heating system thus providing a flexible year 'round system.

The office building is two-story, brick-veneer on hollow tile, concrete floor, concrete on tile ceiling with a ventilated tar and gravel roof. There are 81,000 cubic feet of conditioned space and 7,600 square feet of floor area.

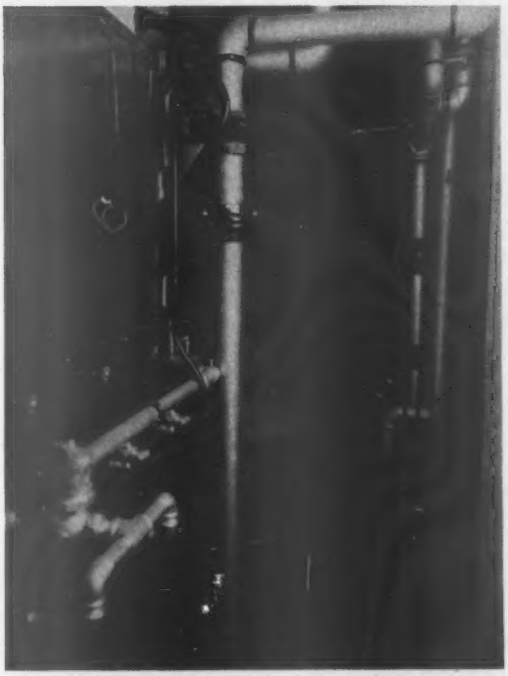
Design Temperatures

To prevent the sudden chill shock when entering the building, as experienced in so many buildings with a low temperature, and in keeping with the familiar phrase "It's the humidity, not the temperature," this system was designed to maintain an inside condition of 85° and 40 per cent relative humidity with maximum outside conditions at 97° dry bulb and 83° wet bulb (57 per cent relative humidity). Temperatures recorded over a period of one year previous to the installation showed a wet bulb temperature of 83° or higher occurred during 10 per cent of daily maximum hours of summer cooling season.

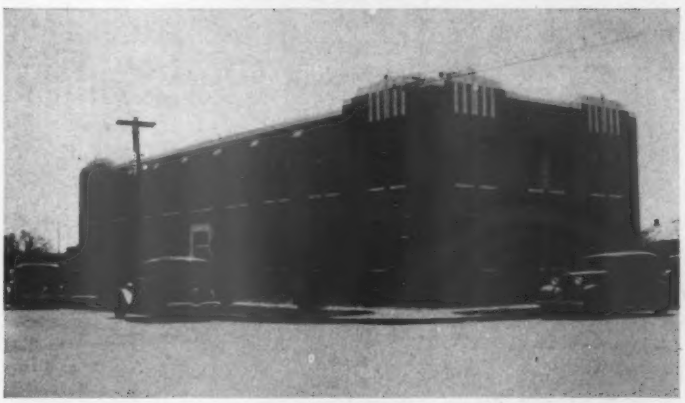
By intentionally varying the conditions in-

Condensing unit, evaporator coils, fan with variable speed motor and main air supply duct

Generator and Celotex housing enclosing gas engine



Section of gas warm air furnace, gas silica gel dehumidifier and water pump. Left front is the winter air conditioner and left rear is the summer air conditioner



Front view of Beeville office building, air conditioned with gas

side the building during the past cooling season, it was found that about 80 per cent of the occupants were satisfied with the inside condition stipulated in the design, or 85° and 40 per cent relative humidity; but 98 per cent of the occupants were satisfied with 83° and 45 per cent relative humidity, while no complaints whatever were received with 80° to 82° and 45 per cent relative humidity (73° to 75° effective temperature).

Supplying 20 cfm of fresh air per occupant, calculations showed latent heat equivalent to 12.65 tons of refrigeration to be removed by the silica gel dehumidifier, and 18.68 tons of refrigeration representing heat removed by the refrigerating unit, making a total capacity of 31.33 tons. Of this total capacity latent heat constitutes 40 per cent.

A detailed flow diagram and equipment layout for both the summer and winter central air conditioning systems is shown in the accompanying illustration. The furnace and duct work are arranged so that by operation of a damper and summer-winter change-over-switch the cooling cycle may be changed to the heating cycle. A 3 pole double throw switch on the control panel is used for feeding city power to the fan motor for the forced warm air heating system.

Outside air is mixed with some return air from the building which enters the silica gel dehumidifier, the moisture carried in this mixed air in the form of water vapor is condensed in the pores of silica gel by the process of physical adsorption, transforming the latent heat into sensible heat. This dehumidified air, having a high sensible heat (150° average) passes through water surface cooling coils, thereby being cooled to 98°. Leaving these coils, it mixes with some bypassed recirculated air to give a resultant temperature of 89°. This air is then filtered and is cooled by evaporator coils to 70° and delivered to the individual rooms. The evaporator, supplied by freon refrigerant from a compressor operates at 55° to 60°.

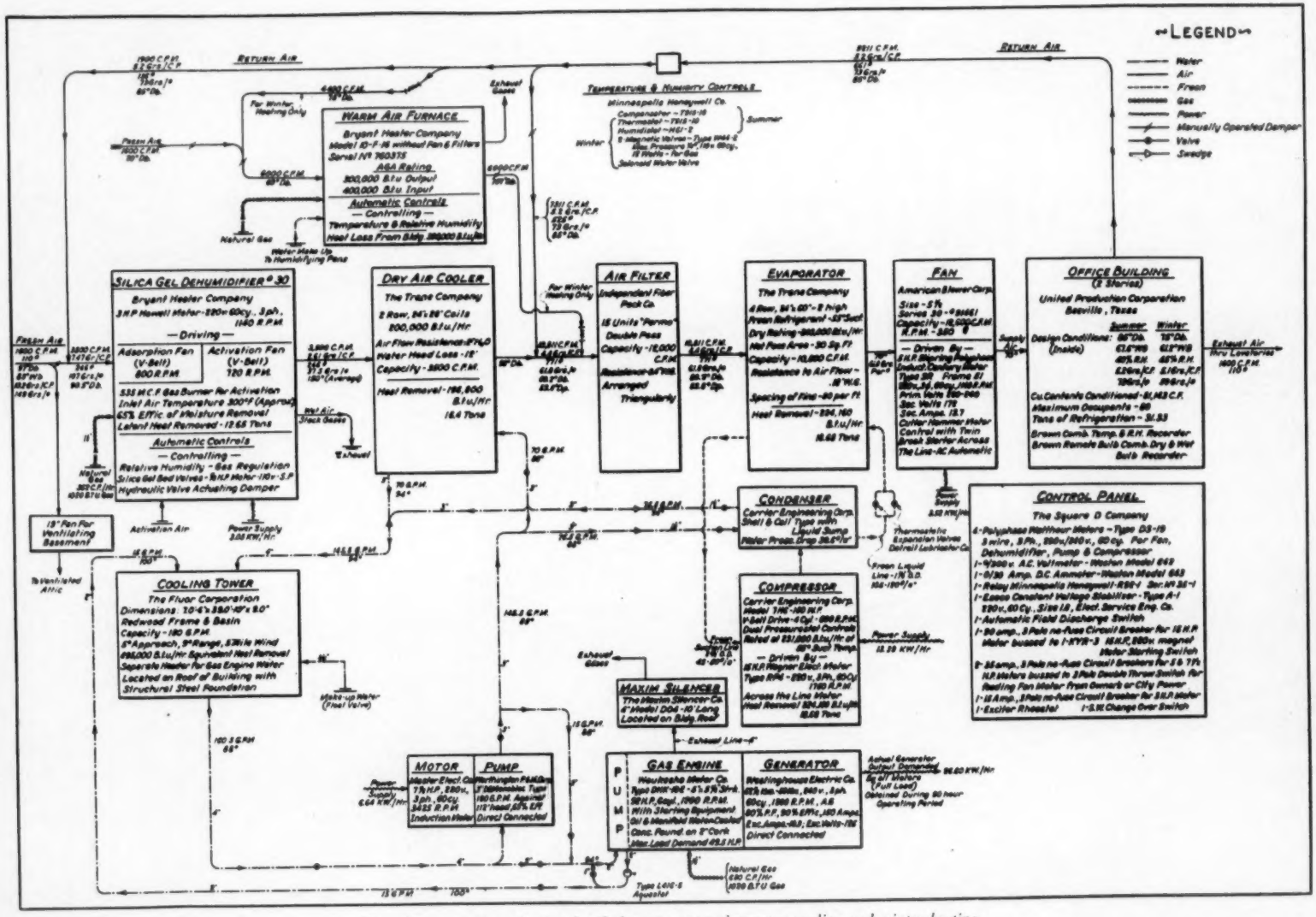
A pump circulates water from a cooling tower located on the building roof to the condensing unit, dry air cooler and gas engine. A water meter in the make-up line to the tower records the water consumption.

Current for each motor driven unit is furnished by a 62.5 K.V.A. generator direct driven by a 6 cylinder 92 H.P. Waukesha gas engine operated at 1200 R.P.M. Lighting and other power is purchased from the local electric utility. Selection of this size generator was governed by the starting current of the 15 H.P. compressor motor. Total electric motor ratings comprising the system is 30.5 H.P.

Regulation of the engine speed is accomplished by a mechanical fly-ball type governor direct connected to the engine throttle. Ignition is by a high tension magneto and starting is accomplished from a push button. The engine crank case oil and manifold are water cooled. Gas consumed by the engine and dehumidifier is metered separately. The engine heat and vapors are removed from the basement by means of an exhaust fan located at the outlet of a duct leading from a celotex housing completely enclosing the engine.

Automatic Control System

A thermostat and humidistat with an outside compensator actuates the compressor motor and dehumidifier to


LEGEND
Water
Air
Freon
Gas
Power
Manually Operated Damper
Valve
Sweatje
RETURN AIR
WARM AIR FURNACE
Bryant Heater Company
Model 10-F-16 without Fan & Filters
Serial N° 760375
AGA Rating
300,000 B.t.u Output
400,000 B.t.u Input
Automatic Controls
— Controlling —
Temperature & Relative Humidity
Heat Loss From Bldg. 288000 B.t.u/hr
TEMPERATURE & HUMIDITY CONTROLS
Minneapolis Honeywell Co.
Summer
Winter
SILICA GEL DEHUMIDIFIER # 30
Bryant Heater Company
3 H.P Hewell Motor - 220v 60cy., 3ph., 1680 R.P.M.
— Driving —
Adsorption Fan (V-Belt) 800 R.P.M.
Activation Fan (V-Belt) 720 R.P.M.
535 M.C.F. Gas Burner for Activation
Inlet Air Temperature 300°F (Approx.)
65% Effic. of Moisture Removal
Latent Heat Removed - 12.65 Tons
Automatic Controls
— Controlling —
Relative Humidity - Gas Regulation
Silica Gel Bed Valves - ½ H.P Motor - 110v - S.P.
Hydraulic Valve Actuating Damper
DRY AIR COOLER
The Trane Company
2 Row, 84"x 28" Coils
200,000 B.t.u/Hr.
Air Flow Resistance - 1"H2O
Water Head Loss - 18'
Capacity - 2500 C.F.M.
Heat Removal - 198,800 B.t.u/Hr
16.6 Tons
AIR FILTER
Independent Fiber Pack Co.
15 Units "Perma" Double Pass
Capacity - 12,000 C.F.M.
Resistance - 0.7"WG
Arranged Triangularly
EVAPORATOR
The Trane Company
4 Row, 84"x 60" - 2 high
Freon Refrigerant - 35°Suct.
Dry Rating - 260,000 B.t.u./Hr
Net Face Area - 30 Sq. Ft
Capacity - 10,800 C.F.M.
Resistance to Air Flow - .18"W.G.
Spacing of Fins - 80 per Ft
Heat Removal - 234,160 B.t.u/Hr
19.68 Tons
FAN
American Blower Corp.
Size - 54
Series 30 - 9 plate
Capacity - 12,600 C.F.M.
R.P.M. - 380
— Driven By —
5 H.P. Starting Polyphase Induction Century Motor
Type 328 Frame 81
220v., 3ph., 60cy., 1680 R.P.M.
Prim. Volts 220-240
Sec. Volts 170
Sec. Amps. 13.7
Cutler Hammer Motor Control with Twin Brook Starter Across The Line-AC Automatic
OFFICE BUILDING
(2 Stories)
United Production Corporation
Beeville, Texas
Summer: Design Conditions: (Inside) 80°Db. 61.5°WB 40% R.H. 2.5 Grs./C.F. 78 Grs./lb
Winter: 70°Db. 61.5°WB 45% R.H. 2.1 Grs./C.F. 196 Grs./lb
Cu. Contents Conditioned - 51,143 C.F.
Maximum Occupants - 60
Tons of Refrigeration - 31.33
Brown Comb. Temp. & R.H. Recorder
Brown Remote Bulb Comb. Dry & Wet Bulb Recorder
CONDENSER
Carrier Engineering Corp.
Shell & Coil Type with Liquid Sump
Water Press. Drop 26.6 Ft/hr
COMPRESSOR
Carrier Engineering Corp.
Model 7HC - 150 H.P.
V-Belt Drive - 4 Cyl. - 690 R.P.M.
Dual Pressurestat Control
Rated at 237,000 B.t.u./Hr at 80° Suct. Temp.
— Driven By —
15 H.P. Wagner Electric Motor
Type RH4 - 220 v., 3 Ph., 60 Cy.
1760 R.P.M.
Across the Line Motor
Heat Removal 234,160 B.t.u/Hr
19.68 Tons
CONTROL PANEL
The Square D Company
4 - Polyphase Watthour Meters - Type D3-19
3 wire, 3 Ph., 220v./380 v., 60 Cy. For Fan, Dehumidifier, Pump & Compressor
1 - 0/300 v. A.C. Voltmeter - Weston Model 643
1 - 0/30 Amp. D.C. Ammeter - Weston Model 643
1 - Relay Minneapolis Honeywell - R92-1 Ser. N° 38-1
1 - Essex Constant Voltage Stabilizer - Type A-1
220 v., 60 Cy., Size 1.0, Elect. Service Eng. Co.
1 - Automatic Field Discharge Switch
1 - 90 amp., 3 Pole no-Fuse Circuit Breaker for 15 H.P. Motor bussed to 1-KYR-3 15 H.P. 220 v. magnet Motor Starting Switch
2 - 35 amp., 3 Pole no-Fuse Circuit Breakers for 5 & 7½ H.P. Motors bussed to 3 Pole Double Throw Switch for Reading Fan Motor from Generator or City Power
1 - 15 Amp., 3 Pole no-Fuse Circuit Breaker for 3 H.P. Motor
1 - Exciter Rheostat 1 - D.W. Change Over Switch
COOLING TOWER
The Fluor Corporation
Dimensions: 10'-6"x 8'0"-10"x 8'0"
Redwood Frame & Basin
Capacity - 180 G.P.M.
5° Approach, 9° Range, 5 Mile Wind
498,000 B.t.u/Hr Equivalent Heat Removal
Separate Heater for Gas Engine Water
Located on Roof of Building with Structural Steel Foundation
MAXIM SILENCER
The Maxim Silencer Co.
4" Model D04 - 10' Long
Located on Bldg. Roof
MOTOR
Master Elect. Co.
7½ H.P., 220 v., 3 ph., 60 cy., 3425 R.P.M.
Induction Motor
PUMP
Myer Pumps P.A.M. Co.
3" Submersible Type
180 G.P.M. Against 118' Head, 67% Eff.
Direct Connected
PUMP
GAS ENGINE
Waukesha Motor Co.
Type DHX-4GE - 6½ x 8½ 3 Brk.
58 H.P. Gas., 1990 R.P.M.
With Starting Equipment
Oil & Manifold Water Cooled
Conc. Pound. on 3" Conc.
Max. Load Demand 49.5 H.P.
GENERATOR
Westinghouse Electric Co.
42.5 Kw - 60 Kva., 240 v., 3 ph., 60 cy., 1800 R.P.M., A.S.
80% P.F., 90% Effic., 180 Amps. F. to C. Amps. - 48.0, Exc. Volts - 115
Direct Connected
Natural Gas 630 C.F./Hr 1030 B.T.U Gas
Type L416-S Aquastat

Flow diagram and equipment details for gas operated summer cooling and winter heating

TABLE 1

UTILITY OPERATING COSTS

		Per Season		*July—1936*
Gas—1. Gas Engine		$201.60		$54.20
2. Dehumidifier		132.60		36.80
Total	85.0%	$334.20	85.5%	$91.00
Electricity	00.0%	None	00.0%	None
Water	6.7%	26.00	6.1%	6.50
Oil	8.3%	32.31	8.4%	8.96
Total per Season	100.0%	$392.51	100.0%	$106.46
Total per Hour		$ 0.398		$ 0.406
Quantities				
Gas—1. Gas Engine (C.F.)	60.3%	576,900	59.5%	156,800
2. Dehumidifier (C.F.)	39.7%	379,000	40.5%	106,600
Total	100.0%	955,900	100.0%	263,400
Electricity (Generated) (K.W.H.)				
1. Compressor	52.2%	12,430	52.0%	3,350
2. Dehumidifier	10.8%	2,582	11.1%	713
3. Fan	11.7%	2,787	11.5%	736
4. Pump	25.3%	6,043	25.4%	1,627
Total (K.W.H.)	100.0%	23,842	100.0%	6,426
Water—(Gallons)		29,450		7,850
Oil—(Gallons)		50.5		14
Unit Costs				
Gas (Per MCF)		$ .35		$ .346
Electricity (Per K.W.H.)		.010		.0102
Water (1st 25,000 Gals.)		6.50		6.50
Oil (Per Gal.)		.64		.64

give automatic control of temperature and humidity. Separate polyphase watt-hour meters record the electric consumption of each motor of the system.

The total initial investment for the complete installation including general overhead company work was $14,800. This is exclusive of the supply and return ducts and heating equipment originally installed in the building but labor for changing furnace location is included in the total. Exclusive of the electric current generating equipment the installed cost per ton of required capacity was approximately $370.

Operating Costs

Operation of the plant during the past cooling season was from June 1 through September 25 over which period it operated a total of 986 hours. Gas used by the dehumidifier and gas engine is purchased from the local company at retail price averaging 35¢ per mcf. Rates used in determining operating costs are those in effect at Beeville, Texas.

The operating cost, including materials consumed, maintenance and repairs for this period of operation amounted to $451.45 or 45.7¢ per hour. Over a period of years the average total operating cost will show some increase over this amount since there will be additional maintenance not encountered during the first season's performance. Had the generated electricity been purchased from the local power company with prevailing rates at 2.91¢ per kw.hr., a total operating cost for the same period of time would have been $903.50 or 91.5¢ per hour. Use of the gas engine generated power shows a saving in operating expense of $452.05 per cooling season.

An accurate account of utility operating costs with quantities of materials consumed and average unit costs obtained over the 986 hour operating period and during the representative month of July (262 hours) is tabulated in Table 1.

A summation of all components of the overall utility operating expense as prorated between dehumidification by silica gel, cooling by water coils and the freon condensing unit and air distribution is shown in Table 2.

Performance

With separate and independent control of temperature and humidity the system has operated with a maximum in flexibility and has required very little maintenance. For the purpose of obtaining complete plant operating data an attendant has kept an accurate daily report of materials consumed and hourly readings of air and water temperatures entering and leaving each unit of the system. Operation of the plant has required little attention.

Operation this past season required no maintenance on the dehumidifier other than usual routine oiling of mechanical parts and no difficulty was experienced in securing the desired relative humidity in the conditioned space.

A change in the original engine throttle control levers and balancing of additional fly ball weights with tension springs was necessary to minimize

(Continued on page 37)

TABLE 2

UTILITY OPERATING COSTS OF COOLING, DEHUMIDIFICATION AND AIR DISTRIBUTION

	June	*July*	*Aug.*	*Sept.*	*Cooling Season*	
Hours operated	251	262	267	206	986	
Latent heat removed by dehumidifier	38.68	44.17	42.04	34.30	40.5%	159.19
Sensible heat removed by dry air cooler	8.26	8.20	8.10	6.47	7.9%	31.03
Dehumidified and partially cooled air	46.94	52.37	50.14	40.77		190.22
Sensible heat removed by refrigeration	46.76	46.43	46.00	34.39	44.3%	173.58
Air distribution	7.76	7.66	7.60	5.69	7.3%	28.71
Total utility costs	$101.46	106.46	103.74	80.85	100.0%	$392.51
Total utility costs per hour	$ .404	.406	.388	.392		.398

A. G. A. and National Gas Advertising Discussed By Company Manager

AT the eighty-eighth annual shareholders meeting of the Consumers Gas Company of Toronto, November 9, Edward J. Tucker, newly appointed general manager, presented the annual report of the directors and the annual statement. Mr. Tucker succeeded, as all gas men know, our well-beloved former president, Arthur Hewitt, with whom he had been associated twenty-six years.

Moving the adoption of the report, the new president, Thomas Bradshaw, said in part:

"During the eighty-eight years of its corporate life, this Company has had only three General Managers:

Henry Thompson (1848-1875) 27 years
W. H. Pearson (1875-1909) 34 years
Arthur Hewitt (1909-1936) 27 years

"These three men contributed to the Company a total of 132 years of service."

Improvement of Service

Seconding the resolution for the adoption of the Report, Colonel J. F. Michie said:

"I would like to say a word regarding the efforts made by the Company toward popularizing the use of gas in the home. For some time it had been realized that in the older sections of the City, conditions were such that it was impossible to give proper service. In many cases additional gas appliances had been installed over a period of years which made the supply of gas from the original piping insufficient to obtain the best results. Some eight years ago, the Company set out to correct this situation and embarked on a program of rehabilitation work.

"One section of the City has been taken at a time and thoroughly investigated. Up to date over 30,000 premises have been examined. Where necessary, the service and house pipes have been cleared and in some cases reconstructed and many thousands of gas burners have been adjusted. All this has been done without charge and we have received thousands of letters expressing satisfaction at the improvement in service after our men had completed their work. Recently the Company has added another service known as the Kitchen Modernization Service, which consists of advising and, if required, preparing drawings on remodelling, decorating and equiping kitchens and this is also, of course, without charge.

"I have much pleasure in seconding the resolution for the adoption of the Report."

The General Manager being called upon, said:

"From the report now before you, it will be observed that the earnings for the year have been sufficient to cover all operating expenses, repairs, taxes, and the payment of the regular dividend, and to add to the Company's funds a net amount of $101,537.97

A. G. A. Laboratory Praised

"At last year's meeting, the Chairman, in moving the adoption of the Report, told you something of the establishment at Cleveland some ten years ago by the American Gas Association, of a testing laboratory costing some $1,250,000.00, the chief functions of which were to develop standards of construction and performance for all types of gas-burning appliances, and to prosecute a program of research into problems of gas production, gas distribution and gas utilization.

"This great co-operative effort toward improvement in gas appliance design and construction has placed the gas industry definitely in a better position with respect to the competition constantly being offered by other fuels. In this connection, one must not overlook the splendid contribution that has been made by manufacturers in designing and building modern gas appliances which are unequalled for their operating efficiency and their attractive appearance.

"It has been recognized by the gas industry generally that many of its problems can be met only by a national approach and with the interest and practical co-operation of each individual company. Actuated by this thought, the American Gas Association during the past year embarked upon a program of national advertising, with the object of promoting public acceptance of gas as the modern efficient fuel for all household, industrial and commercial purposes for which heat is required.

"The program contemplates the spending of $500,000.00 each year, for three years. Full-page color advertisements will appear in the leading women's and family magazines. In all, nearly ninety-one million full-page color messages will go to the public each year. All of these magazines have a large circulation locally, which should add effectiveness to the Company's own advertising copy and materially assist this Company in its efforts to strengthen its position by inviting attention to the many advantages provided by the use of gas in the home.

"Modern business cannot long exist without sales and promotion efforts. Like all other industries, the gas industry must be prepared to meet the challenge of competition and of changing trends, and be able to adapt itself to new demands and conditions.

"The importance of branch showrooms as a means of bringing our service to the notice of the public has been fully appreciated, and because of the local character they possess, they are of great value in maintaining close contact between the Company and its customers.

"The Home Service department plays an important part in the sales activities of the Company. To interest homemakers in the art of cooking and modern theories of food values, and to educate them in the efficient and economical use of their gas appliances, demonstration lectures are given in this auditorium and in the auditorium of our North Toronto showroom. The total registered attendance at these lectures of 40,000 per season is conclusive proof of the interest and goodwill they create.

"In this work, the rising generation has not been overlooked. Classes for Girl Guides are held on Saturday mornings during the winter season, with an average attendance of 250 girls. During the Easter holidays, practical and written examinations are conducted in this room, at which last year 85 per cent of the candidates were successful in obtaining the 'Cook's Badge.'

"Notwithstanding the keen competition we have to face, I am satisfied that the future for gas is as bright as ever, provided the Company maintains good service and is organized and prepared to go out and get the business that rightfully belongs to it."

The Resolution for the adoption of the Report was carried unanimously.

Gas Research as a Capital Asset

Two gems on the problem of research in the gas industry are reported in the London, *Gas World's* account of the Autumnal research meeting of The Institution of Gas Engineers, as follows:

"The industry is not sufficiently research minded; the amount of money which is being spent on the production side of the industry for collective research scarcely touches the fringe of collective security for the industry. It is a very small amount when compared with the capital that is invested."—MR. RHEAD.

"Research creates a capital asset that does not show on the balance sheet, but is one of the best safeguards of the assets that do appear on the balance sheet."—SIR HAROLD HARTLEY.

Chimney Liners

By MELVIN C. ECK

Minneapolis Gas Light Co., Minneapolis, Minnesota

CONDENSATION in chimneys where gas is used as a fuel has long been a problem confronting the gas industry. The past heating season with its protracted cold spell made us realize how serious this problem can be if measures are not taken to protect the chimney.

At the close of the Mid-West Gas Association Convention last April, an impromptu meeting was held by a group of men who were seeking a solution to their chimney problems. All present agreed that a decision should be reached relative to whether or not all chimneys should be lined, and what materials could be recommended as best suited for this purpose. A committee was formed, each member of which was charged with the responsibility of gathering certain data which could be discussed at later meetings. The information which is to follow is the result of the committee's work.

30 Companies Surveyed

A survey was made of thirty gas companies in the northern part of the United States, which represents a total of 94,000 gas burner installations. Of that number only 4.8% of the chimneys have been lined with a liner expressly for gas fuel. From these figures the problem of condensation in chimneys appears to be a minor one, but the past heating season has changed the viewpoint of many gas companies and the percentage of liners will rise sharply. Several of the largest gas companies in this area already have adopted a policy of lining the chimney in every case at the time of installation of the gas burner. They are also recommending a liner for the old installations at the first sign of trouble.

Condensation will form in practically every chimney during the extreme cold weather, an outside chimney with three sides exposed is one extreme and an inside chimney extending through a heated attic is the other. A severe winter such as we had during the past season caused trouble that perhaps would not have been brought out in three or four normal winters. Many of the most flagrant cases of damages are due to faulty construction of the chimney, and could not be detected without a close examination. I have witnessed cases in which a contractor has skipped the tile lining near the top of the chimney for a distance of a foot or two just to eliminate the cutting of a tile for the short length needed. In most of the larger cities the building ordinance requires a fire clay flue liner on all new construction. This type of chimney is far superior to the brick and mortar chimney, but is not the answer to the problem, when gas is used for heating the home, due to the porosity of the tile and the leakage at the butt joint. The lifetime of this type of chimney is limited, and depends on the severity of the conditions to which it is exposed.

Flue Liner Advantages

Many advantages are derived from installing a properly sized flue liner at the time of the burner installation. Actual tests have shown the fuel economy to be as high as ten to fifteen per cent in some cases, and in every case to be large enough to be noticed. Due to the lowered cross-sectional area, less air goes up the chimney, and consequently, less infiltration into the house. Basements are kept warmer, and draft conditions and "cold 70" are lessened on the first floor. Damage which may come to the chimney and walls is eliminated, and this cannot be measured in dollars and cents only. Our competitors selling other types of fuel, use this chimney angle as a knocking point of gas heat.

It is a serious problem when the chimney becomes saturated with condensation. A liner installed then will prevent further damage, but it is already too late to eliminate all the trouble. A chemical analysis of the mortar from a chimney that had been torn down showed the presence of sulphuric acid and calcium sulphate. The sulphur in the coal used previous to the gas installation is largely responsible for the presence of these two compounds. Once the acid (being hygroscopic in nature) is carried through to the plaster, it will absorb moisture from the air on every humid day. The wall can be repapered, but the spots will appear again at a time of high humidity. There are two alternatives offered as a remedy to this condition, one being to remove the plaster and the other to treat the plaster to remove this moisture absorbing condition. One method of treating the plaster is with sodium silicate, which will neutralize the acid and harden the plaster. This method has been successful and has prevented the spots from appearing on the new paper. A bulletin by the United Light and Power Engineering and Construction Company named "Report of Moisture Conditions in Chimneys Where Gas Heat Is Used" goes into detail as to the materials required and methods of application to the affected surface.

The method used in the different cities for the sizing of flue liners is not consistent, and will vary from 5,000 B.t.u. per square inch to 10,000 B.t.u. per square inch. Another method is to install the largest liner possible. The figure most widely used is the one recommended by the A. G. A. which is 7,500 B.t.u. per square inch. The company using 10,000 B.t.u. per square inch bases its argument on the warm air heating code which states that the vertical stacks need be only 70% of the basement warm air pipe area. Actual experience has proved this method to work out very successfully.

Storage water heaters and tank heaters can be vented into the chimney lining usually without any change in the sizing of the liner, but instantaneous water heaters must be taken into consideration. The gas input of an instantaneous water heater may be almost as high as the input of the gas burner and the sum of the two should be used when sizing the liner. Ranges on

Paper presented at the Mid-West Gas School and Conference, Iowa State College, Ames, November, 1936.

the first floor are usually vented into the chimney around the outside of the liner. When this is done the top of the chimney cannot be sealed up around the flue liner. When all the appliances are vented into the liner, the top can be sealed to form a so-called dead air space. The ideal cap for the top of the chimney is lead, but a Portland cement mixture is the one most commonly used, and then covered with a waterproofing material. One contractor in Chicago makes up a precast concrete cap so that it can be installed even in the coldest of winter.

Preventing Condensation

We have been talking about protecting the chimney by installing a liner to prevent the flue gases from coming in contact with the cold walls, but another angle is to keep the flue gases above the dew point to prevent the condensation. We cannot sacrifice efficiency by raising the stack temperature, but two other methods are available:

1. Lower the dew point.
2. Cut down the heat loss of the chimney.

The dew point can be lowered by the addition of more air to the flue gases. By the addition of basement air, the temperature of the mixture is lowered more than the resulting lowering of the dew point, so nothing is gained. To cut the heat loss of the chimney will require insulation. A liner is dropped down the center of the flue and then an insulating material is packed between the liner and the chimney walls. This may be used on new installations, but should never be attempted on an old job in which the chimney walls are saturated with moisture. The insulating material will soak up the moisture, and the chimney being capped at the top will leave no way for the material to dry out.

The following data on materials used for flue liners are based on the reports from the different gas companies, and are their actual experience with about ten materials. There seems to be a difference of opinion on some of the materials, successful in one locality and condemned in another.

Copper

The results with copper were only fair, with only one company reporting having success with it and their experience was limited. One company reported using a heavy gauge copper and the liner was standing up well, but was starting to show definite signs of corrosion.

Lead Coated Pipe

Not recommended very highly by any one. Three or four years seems to be the lifetime from actual experience, but one company has estimated the lifetime as 8 to 10 years. The general opinion is that it will not stand up long enough to warrant its use.

Transite Pipe

Transite has been widely used, and the general opinion seems to be that it is very successful when properly installed. The most serious trouble experienced is leakage at the joints, but this is not a common fault. Transite is difficult to install due to the large outside diameter of the coupling compared with the inside diameter of the pipe. It cannot be used in an offset chimney, unless the chimney is opened up to install the offset fittings.

Aluminum

Aluminum pipe has not been used to any great extent, and those who have experimented with it are not pleased with the results. It does not stand up long enough to warrant its use.

Vitreous Enamel Pipe

Of all the materials on the market the vitreous enamel pipe, at the present, seems to be the best answer for a chimney liner. It can be used in either straight or offset chimneys as the manufacturer makes the pipe in joints as short as six inches. With these short joints an offset can be handled with ease. The lifetime of this pipe is not known, but if handled with reasonable care, and the enamel not chipped off to expose the metal, it should well be worth the investment. An eight-inch liner of this type was installed in Minneapolis five years ago, in an outside chimney, and looks as good today as when it was installed. A "condensation eliminator" of the same material is put out by this manufacturer, the merits of which I know very little, except the claims made by the manufacturer.

Stainless Steel

The reports on 18-8 chrome nickel steel and Alleghany metal are very satisfactory. A few cases of corrosion have been found, but this particular company believes it to be a defect in the material and have not removed it from their approved list.

Spraying with A. C. E.

This method has not proved satisfactory because of the difficulty in getting a coating to cover the entire surface. Even when applied to a clean sound base the lifetime is only about three years.

Dipped Metal Pipe

Some work has been done with metal pipe dipped in A. C. E., but the experience is limited and very little known as to the lifetime of this material.

Tile

Vitrefied glazed tile is very satisfactory if it has a bell or slip joint. A butt joint tile should never be used. The joints should be caulked either with lead or an acid-resisting cement. This is an ideal material with which to line a chimney, for a new construction, but is difficult to install in an old chimney. A manufacturer of clay products, here in Iowa, has made samples of a slip joint tile that is very hard and dense. The cost per lineal foot is about one fourth that of the metal liners, and if made in an oval it could be lowered into an existing chimney.

There are many points in favor of a chimney liner, but only one argument against it, and that is the cost. Somebody has to pay for it, and the logical place for it is in the price of the burner. The raise in burner price may at first be a resistance to sales, but it will remove a knocking point from our competitors. A liner installed at the time of the burner installation will remove the possibility of damage to the customer's premises and surely a customer with a damaged chimney is a poor booster for gas heat.

One of the outstanding virtues of the gas industry is the willingness with which one utility will share its knowledge with another. The research on chimney liners should not cease when we think we have found a satisfactory liner, but keep on until we have found the "perfect" liner.

House Heating Council Holds Annual Meeting

THE seventh annual meeting of the Metropolitan House Heating and Air Conditioning Council was held at the Hotel Governor Clinton, New York City, December 16, attended by the largest group which has ever taken part in this annual event. W. A. Scully, of the Consolidated Edison Co. of New York, chairman of the Council, presided throughout the meeting.

The first paper on the program was by Howard S. Giez, builder, of Montclair, N. J., who outlined his program of using modern gas air conditioning installations as an effective factor in promoting his development sales.

The dealer's viewpoint of gas heating was presented by R. K. Hart of the Hart Air Conditioning Company, Union City, N. J. Mr. Hart pointed out effective ways of selling gas heating to large building developments, especially in the low-priced field, and indicated how his company made use of the fact that they were both in the oil burner and gas burner business. A great many practical selling points were brought out which the audience received most enthusiastically.

One of the most interesting papers on the program was presented by R. J. Rutherford, vice-president of Worcester Gas Light Company, who, while declining to essay the task of prophet,—having in mind the recent election—pictured to the audience a real vision of what's ahead in house heating sales.

Following luncheon, N. T. Sellman, assistant vice-president of Consolidated Edison Company of New York, made a short address of welcome stressing the place of gas house heating sales in the future of the gas companies.

The afternoon program opened with the showing of the employee educational film "That's What You Think" prepared by the Consolidated Edison company, and this was followed by a symposium on sales entitled "That's What We think." Four short talks were given by outstanding house heating salesmen on topics of practical interest to all of the selling forces. M. K. Johnson, Public Service Electric and Gas Company, presented "Time Saving Aids for Salesmen"; F. E. Elliott, Jersey Central Power & Light Company, presented "Sales Aids Other Than Regular Advertising." A successful selling plan for promoting water heating was outlined by H. T. Sherwood, Westchester Lighting Company, who recently won a gold medal for water heater sales in the American Gas Association's national contest. E. C. Roeser, Long Island Lighting Company, gave the salesman's viewpoint along the same topics which had been presented in the morning by Mr. Giez, builder, and Mr. Hart, dealer, "Reaching the New Home Market."

The final presentations were by representatives of manufacturers of summer air conditioning equipment under the title "Let's Have No Slump Next Spring." Three equipment builders outlined their spring plans for the use of gas for summer as well as winter air conditioning.

—C. G. S.

Elor Gunst Dies

ELOR GUNST, representative in Denmark of West's Gas Improvement Company and well known to the gas fraternity throughout the world, died at his home in Scandinavia on October 23.

Joseph E. Nason Dies

JOSEPH E. NASON, formerly president of the Eriez Stove and Manufacturing Company, Erie, Pa., and later associated with the Cleveland Cooperative Stove Company, Cleveland, Ohio, died recently. Mr. Nason was widely known in the gas industry and was an active supporter of the American Gas Association.

Natural Gas Meeting May 10 to 15

THE A. G. A. Natural Gas Department's spring meeting will be held in Kansas City, Missouri, during the week of May 10, 1937.

This meeting will be of unusual interest to the natural gas industry as the manufacturers and supply men have decided to hold an official exhibit. This will be held in the new Civic Auditorium which has a total display space of 90,000 sq.ft. From the preliminary interest shown, it will be the largest and most instructive display of the latest developments by the manufacturers, supply men and appliance manufacturers.

The hotels of Kansas City have already been advised of this coming Convention. While a guarantee of ample rooms to house delegates has been made, those planning to attend are urged to make reservations as far in advance as possible in order to assure proper accommodations.

The program committees are already at work laying out a program of live and interesting topics for discussion during this gathering and shortly after the first of the year a tentative program of proposed subjects and events will be issued. Mark the date on your calendar.

Display Trailer to Carry Gas Refrigerator

The Dallas Gas Company, Dallas, Texas, will use the new gas refrigerator display trailer shown above to demonstrate the use of gas refrigeration to rural homes in the company's rural gasification program. In the picture, left to right, are: Jack Lynch, district sales manager for Servel, Inc., donors of the equipment shown, congratulating Wesley F. Wright, vice-president and operating manager, who was awarded the car and trailer at the A. G. A. convention in Atlantic City; Jake Lynn, sales department; Lew Libby, Servel, Inc., representative; R. G. Soper, president, Dallas Gas Company; C. K. Patton, new business manager; George Hargrave, sales supervisor; and Herbert Shoemaker, Servel, Inc., representative who drove the car to Dallas and presented it to Mr. Wright

Affiliated Association Activities

New England Gas Association

R. J. Rutherford

ADVANCE notices of the annual meeting of the New England Gas Association to be held Thursday and Friday, February 11 and 12 at the Hotel Statler, Boston, indicate a record gathering of New England gas men and a program well in keeping with the new spirit in the industry.

The tentative program, which is the result of more than 100 suggestions from member company managers, includes a well-balanced group of subjects with special emphasis on sales. Many men in the forefront of the industry will address the delegates. R. J. Rutherford, Worcester, is chairman of the Program Committee.

Contest Awards

A feature of the opening session Thursday morning will be the presentation of sales and best paper contest awards. A total of more than 50 sales awards are to be made to member companies who are divided into four groups according to meters. These sales contests cover ranges, refrigerators, water heaters, house heaters, space heaters and domestic output. Best paper awards are made to those members who have presented the most worthwhile papers before each of the five divisions of the Association.

Other events on tap for the first session include the President's Address by F. L. Ball, Boston, and a review of Association activities by Clark Belden, secretary. A personal appearance of the Mystery Chef has also been planned for this session.

Summer and winter air conditioning lead the topics which have been selected for discussion Thursday afternoon. Others which have been assigned for discussion by key men are: Serving the Commercial Market, New Developments in Industrial Gas Applications, New Production and Distribution Developments, This Question of Service and A Review of Manufacturers' Activities.

Friday's program includes such timely subjects as: Appliance Financing, Local Promotional Advertising, Modernization Developments, Customer Service, Meeting Domestic Competition, Market Research Possibilities, Reaching the New-Home Market and Home Service Developments.

The annual dinner and dance will be held on Thursday evening in the Hotel Statler.

Wisconsin Utilities Association

COMMITTEE members of the gas section, commercial and technical divisions of the Wisconsin Utilities Association at a recent conference in Manitowoc decided to hold a joint convention and manufacturers' exhibit at the Schroeder Hotel in Milwaukee, March 15-17.

T. J. Danehy, chairman of the section, appointed J. H. Fagan, chairman of the program and exhibit committees and authorized him to select an exhibit committee sufficiently representative to solicit comprehensive commercial and technical displays. Additional members of the program committee appointed are: E. C. Brenner, T. J. Danehy, Henry Dropp, H. S. Richardson and A. A. Schuetz.

The opinion prevailed that the first convention day be devoted to joint sessions at which national authorities on commercial as well as engineering and operating subjects should be the speakers. Topics are to be selected that will interest and benefit operators, engineers and sales forces.

The second day is to be set aside for parallel meetings, to be conducted individually by the commercial and technical divisions. At these sessions only such topics are to be scheduled as will apply specifically to the work of each division.

The morning of the third day is to be reserved for technical round table discussions should it be found that supplementary convention time is needed to allow for full discussions.

These suggestions are to be considered as a guide by the program committee which may rearrange schedules, topics and speakers as it deems best. Leaders in the industry will be invited by the program committee to address the convention.

Convention Calendar

JANUARY

20 National Bottled Gas Ass'n
Waldorf-Astoria Hotel, New York, N. Y.

25-27 American Society of Heating & Ventilating Engineers
Hotel Statler, St. Louis, Mo.

25-29 American Institute of Electrical Engineers
New York, N. Y.

FEBRUARY

4-6 Eastern Natural Gas Regional Sales Conference
William Penn Hotel, Pittsburgh, Pa.

10-12 Southern Gas Association—Southwest Regional Gas Sales Conference
Peabody Hotel, Memphis, Tenn.

10-12 New England Gas Association
Hotel Statler, Boston, Mass.

18-20 Mid-West Regional Sales Conference
Palmer House, Chicago, Ill.

23-25 Joint Gas Conference—British Gas Federation
Birmingham, England

MARCH

15-16 Wisconsin Utilities Association—Gas Section, Commercial and Technical Divisions
Schroeder Hotel, Milwaukee, Wisc.

APRIL

12-14 A. G. A. Distribution Conference
Washington, D. C.

27-29 U. S. Chamber of Commerce
Washington, D. C.

MAY

4-5-6 Pennsylvania Gas Association
Lodge of the Sky Top Club, Sky Top, Pa.

Wk. 10 Natural Gas Department, A. G. A.
Kansas City, Mo.

24-26 A. G. A. Production and Chemical Conference
New York, N. Y.

JUNE

2-4 Edison Electric Institute
Chicago, Ill.

10-11 Canadian Gas Association
Chateau Laurier Hotel, Ottawa, Canada

11-16 International Gas Union
Paris, France

14-20 Second World Petroleum Congress
Paris, France

24-26 American Society of Heating and Ventilating Engineers
New Ocean House, Swampscott, Mass.

OCTOBER

Wk. 11 American Gas Association

18-21 American Society for Metals
Atlantic City, N. J.

Mid-West Gas Association

THE sixteenth annual Gas School and Conference, sponsored jointly by the Mid-West Gas Association and the Iowa State College, was held November 18-21 in Ames, Iowa, with outstanding success.

Attendance at the sessions was the highest in the history of the school. A large number of informative papers were presented and evoked such spirited discussion that it was difficult to keep the conference on schedule. One of the papers, "Chimney Liners," by Melvin C. Eck, is reprinted in this issue of THE MONTHLY.

Exhibits of gas appliances and equipment, some of which were brought directly from the A.G.A. convention in Atlantic City, attracted much favorable comment.

Robert L. Klar was chairman of the committee in charge of the conference.

Personal and Otherwise

Leonard Heads Devonian Oil Company

ARCHIE W. LEONARD was elected president of the Devonian Oil Company at a directors' meeting held in Pittsburgh, Penna., on November 14. He succeeds the late Joseph H. Evans.

Mr. Leonard has been in the oil and gas business since his boyhood. He was a driller and contractor before he became a producer and an oil and gas executive. His father, the late J. R. Leonard, was a pioneer oil man and one of the founders of the Devonian Oil Company.

He has been vice-president of the Oklahoma Natural Gas Corporation, a director in the Chestnut & Smith Corporation, vice-president and general manager of the Devonian Oil Company, and president of the old Natural Gas Association of America. He is a member of the American Gas Association.

Mr. Leonard's long experience was called upon when the gas line from the Texas Panhandle to the State of Indiana was being constructed, and he directed the work of crossing rivers and of overcoming other difficult hazards encountered in that undertaking. He is one of the most widely known and highly regarded men in the industry.

New Assignments for Parry and Olcott

DONALD D. PARRY and H. W. Olcott, president and secretary, respectively, of the Public Utilities Advertising Association, recently resigned their positions with gas companies to become affiliated with new organizations.

Mr. Parry resigned as advertising manager of the Central Hudson Gas and Electric Company, Poughkeepsie, N. Y., to join the staff of Wilson and Haight, Inc., Hartford, Conn., advertising agency active in the public utility field. Since 1930, under Mr. Parry's direction, Central Hudson has won three firsts, three seconds, and one honorable mention in P. U. A. A. Better Copy contests.

Mr. Olcott resigned as advertising manager of The Philadelphia Gas Works Company to become an account executive on the staff of Daniel Starch and Associates, located in New York. He goes to the Starch organization with more than twelve years' experience in public utility publicity and advertising fields.

Both Mr. Parry and Mr. Olcott have been active in A. G. A. advertising committees.

Home Service Organizer to Retire

Paul D. Warren

AFTER more than 41 years of service with The Peoples Gas Light and Coke Company, Chicago, Paul D. Warren, assistant to the vice-president of sales, and the first superintendent of the first Home Service department in the country, retired on January 1.

From the start of his gas company career in Chicago, on July 5, 1895, Mr. Warren's ability and workable ideas attracted attention, and after a few years of "apprenticeship" he was made manager of the company's first Addressograph department. Thereafter he rose from one supervisory and executive position to another, being appointed to head the company's Stationery, Application, and Bookkeeping departments.

Mr. Warren was appointed superintendent of the Home Service department, and assistant to the vice-president in charge of sales on June 2, 1924. This was at a time when the spark of the Home Service idea was first set off; it was beginning to be accepted as a method of offsetting conditions that were forming as an aftermath of the World War, when new generations of housewives were growing up and getting married, without the inclination and skill to deal adequately with dining room and kitchen problems. Mr. Warren was the first executive organizer of this highly important addition to the gas industry.

For many years during his career, Mr. Warren engaged in gas association work. In 1927 and '28 he was president of the Illinois Gas Association. He has also been active in American Gas Association work, serving as chairman of numerous committees in the Accounting and Commercial sections. For three consecutive years he had charge of the Accounting section exhibits at Atlantic City. He has also been vice-chairman and chairman of the Home Service committee of the association.

C. E. Dougherty Resigns from Chattanooga Gas

RESIGNATION of C. E. Dougherty, for the past 14 years sales supervisor of The Chattanooga Gas Company, and the appointment of Orin F. Reynolds, as successor to Mr. Dougherty, was announced Dec. 11, by A. J. Goss, vice-president and general manager.

Mr. Dougherty's resignation to take effect Dec. 31 was tendered that he might give his full time to affairs of the Chattanooga Button and Badge Manufacturing Company, which he acquired during October.

Coming to Chattanooga 14 years ago from Ottumwa, Iowa, where he had been associated with Mr. Goss for the previous four years, Mr. Dougherty assumed full charge of the sales department of The Chattanooga Gas Company and has continued in that position since.

Mr. Reynolds has been with The Chattanooga Gas Company for the past 12 years as chief engineer and in charge of industrial and commercial sales. As successor to Mr. Dougherty, he will have general supervision over all sales activities including industrial, commercial and domestic.

Immediately upon his appointment as sales supervisor, Mr. Reynolds announced the appointment of Robert S. Kinzalow, as his assistant in direct charge of commercial and industrial sales, and Guy P. Newbern, as assistant in direct charge of domestic sales.

Bastian-Morley Changes

BASTIAN-MORLEY CO., INC., Laport, Ind., manufacturers of gas equipment, have announced the following personnel changes.

Jim Donnelly, formerly sales promotion manager, has been promoted to sales manager effective November 16. Mr. Donnelly joined Bastian-Morley Co., Inc., in 1923 after several years in the advertising and merchandising field.

J. P. Hutchinson has been promoted to assistant sales manager and R. I. Smith, formerly sales representative in the Philadelphia area since 1935, has been transferred to the factory. Mr. Smith assumes new duties as manager of the testing and inspection department. An electrical engineer, Mr. Smith joined the Bastian-Morley organization as Philadelphia representative after a number of years in the public utility field.

Accounting Section

Herbert E. Cliff, Chairman H. W. Hartman, Secretary E. J. Tucker, Vice-Chairman

Individual Payroll Summary

By ALFRED WATSON

Columbia Gas & Electric Corp., New York, N. Y.

WEEKLY payrolls have created a problem not previously encountered with monthly or semi-monthly payrolls, the latter automatically including all items applicable to the month, and no problem exists, therefore, in the distribution of current charges. This does not obtain when payment is on a weekly basis, as in each instance in which the last day of the month does not fall on the last day of a payroll period, a split week occurs. This involves either two separate payroll distributions for that particular week or the elimination of that portion of the prior month's charges from those applicable to the current month. Oftentimes this is accomplished on an estimated basis, which causes some extra expense in computing and summarizing. To overcome this situation, one company has recently adopted a form of "Payroll Summary" which is used in conjunction with payroll machine equipment, as illustrated in Exhibit 1 and briefly explained in the following:

Advantages of Form

In Exhibit 1, seven different forms are illustrated. In the upper left corner space is provided for addressographing the employee's number, name, occupation and rate. The only difference between the forms is in the daily time section in which the block printing extends one extra day on each of the first six forms. The first unblocked column in this section indicates the correct position of the first day of the month and the number of days of the prior month to be included in the current week's payroll. As one of each of the twelve months of the year begins on one of the seven days of the week, a series of seven forms provides for all months, leaving from one to seven unblocked spaces in the first weekly section of the form. It will be noted that sufficient space follows this blocking to allow a daily record for each of the 31 days of the month, this space being subdivided into sections of seven days each. Due to the starting position it is possible for a thirty-one day month to extend into the sixth weekly section of the form.

This form permits of computing wages on a weekly basis and the combining of all details for each employee for a calendar month. By so doing, it avoids all extra work in pro-rating accrued or prepaid payrolls in cases of split weeks. It also avoids the recording of the employee's name, wages, deductions, etc., on a separate recapitulation summary for the month as the "Payroll Summary" becomes a monthly register, complete as to all payments made to each employee as well as the proper distribution to the accounts affected. This register, which also records the check number and net pay, together with totals of gross and net pay, class of deduction, etc., is used as a proof record and detail for bank reconciliation purposes.

In those instances when the last day of

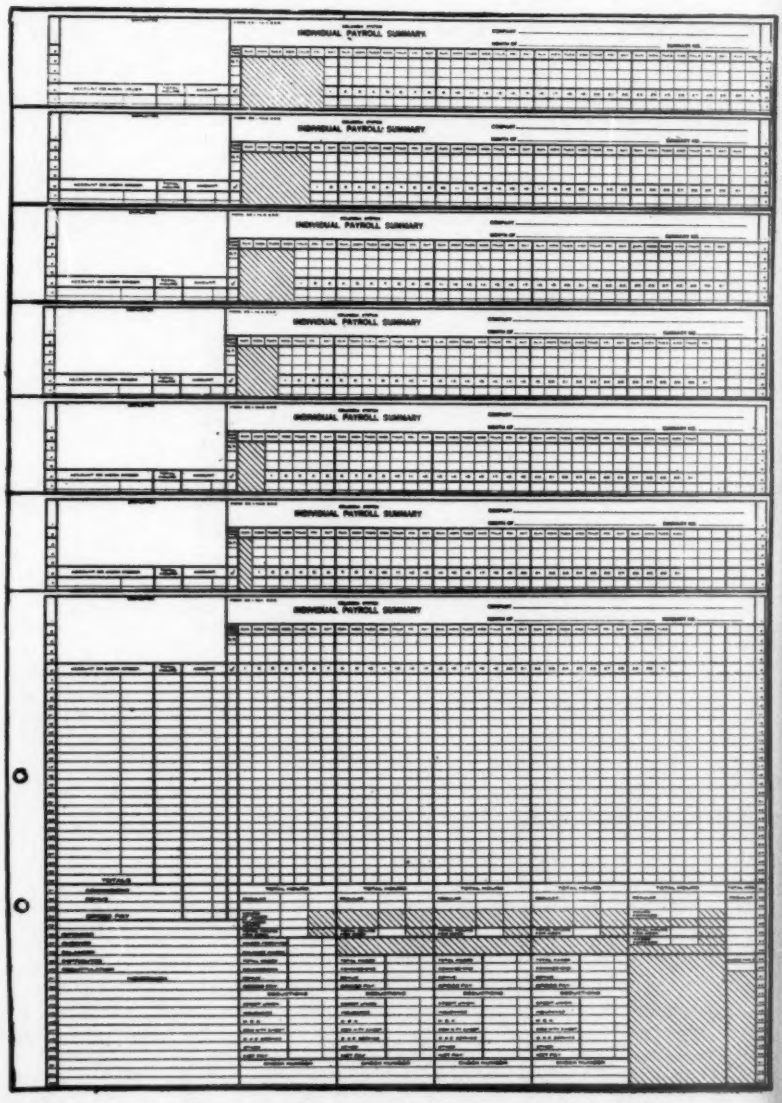


Exhibit 1

Contributed by the Accounting Machines Committee, P. J. Sweenie, Chairman.

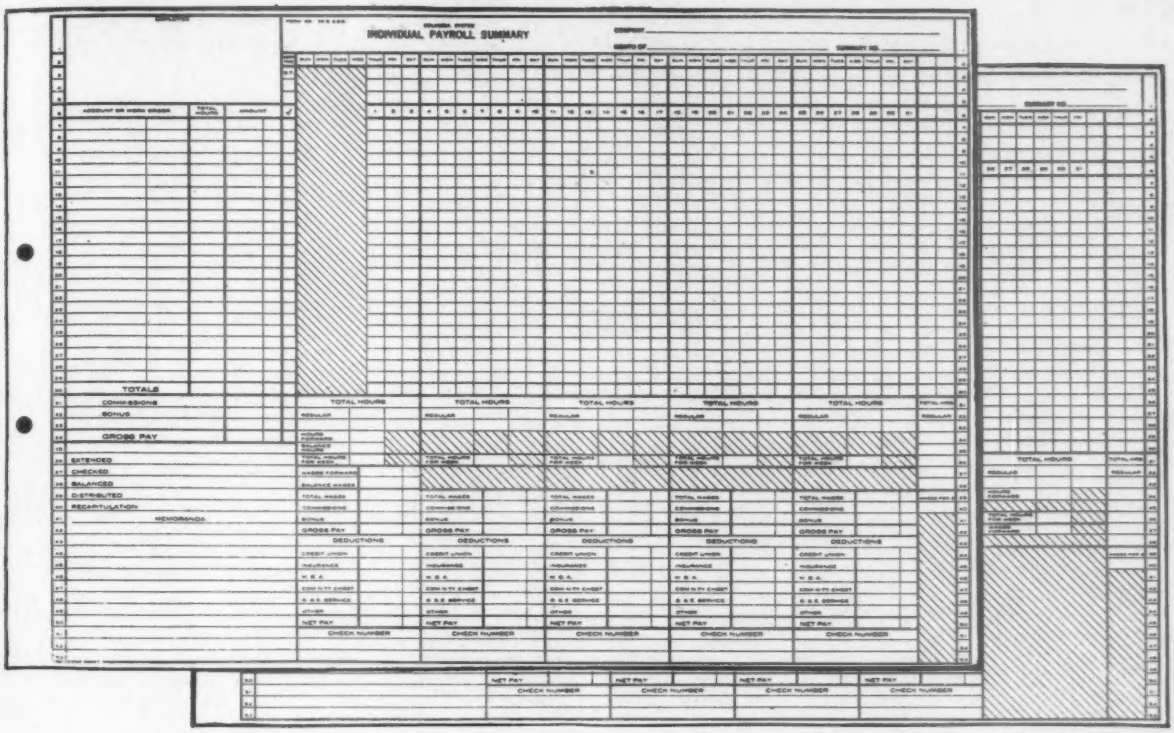


Exhibit 2

the month falls on the last day of a payroll period, the summary is of course complete within itself. In instances where remaining days of the period carry beyond the last full week, the totals are included for this portion of the current month and the hours and wages computed for accumulating and carrying forward to the first weekly section of the following month, as shown in Exhibit 2.

It has been found that, in addition to conserving filing space and saving time in reference and auditing, this form of summary also has the advantage of permitting the progressive accumulation of payroll details by weekly periods prior to the close of the last period for the calendar month. Month-end peaks, therefore, are reduced, as it is only necessary to combine the totals for the last period with those previously obtained. Another unique feature is the possibility of adding the individual columns from top to bottom to determine hours of pay and from right to left for account distribution. This method has simplified the summarization of these items and it is found that the work is now completed more rapidly and with greater accuracy.

A posting table with a holder attached to permit of leafing the summaries for quick reference to accounts and amounts has been provided for the operator's convenience. When used with the check-writing machine, a holder for the summaries, permitting the visibility of only current weekly information and deductions, is provided. These two devices have served to increase the accuracy and the volume of work per operator.

Most employees are subject to one or more payroll deductions, such as insurance, savings, benefit organizations, appliance purchases, etc. By classifying these various deductions and by prearrangement with the employee it is possible to apply all or a part of any class of deduction in any one or more weekly pay periods, thereby in a simple manner conforming to the various demands made for payroll deductions.

Lee B. Mettler Is Dead

LEE B. METTLER, head of Lee B. Mettler Company, manufacturers of combustion gas burners, and one of the first members of the old Natural Gas Association of America, died November 13. Mr. Mettler was born in Adrian, Michigan, December 7, 1874.

An unique historical incident in connection with the founding of the Natural Gas Association of America is associated with Mr. Mettler. On February 20, 1906, a group of men met in the old Midland Hotel, Kansas City, Mo., to form an association for those interested in the natural gas industry. When they gathered for lunch it was discovered that there were thirteen about to take their seats. Fearing that this might have an adverse effect upon the new organization, they cast about for some one to join them. In the hotel at the time was Lee B. Mettler, then a salesman for a gas burner company. Mr. Mettler was invited to join the group and in after years frequently said that the success of the Natural Gas Association was due to the fact that he had saved it by being the "fourteenth guest."

When the first annual meeting of Natural Gas Association was held in June, 1906, Mr. Mettler became a member and continued membership until that association merged with the American Gas Association. Since then he has been active in the Natural Gas Department of the American Gas Association, rarely missing a meeting.

Gas House Heating Gains in N. J.

AT the end of October, there were more than 4,500 building heating installations served by Public Service system companies in New Jersey. Public Service Electric and Gas Company makes free surveys in the homes of any customers who desire to ascertain the cost of changing to clean, automatic, gas heating. The company's staff of trained engineers has been enlarged this year to take care of the growing demand for house heating surveys.

Substantial reductions in rates have placed gas in a strongly competitive position with other fuels for heating buildings.

Commercial Section

F. M. Banks, Chairman **J. W. West, Jr., Secretary** **Hugh Cuthrell, Vice-Chairman**

Commercial Section Inaugurates Many New Projects for Coming Year

COOPERATIVE activities on a broad scale are included in the 1937 program of the Commercial Section which held its organization meeting October 30 at Atlantic City during the A. G. A. convention. Under the leadership of F. M. Banks, chairman, and Hugh H. Cuthrell, vice-chairman, a forceful and effective program to utilize all existing and potential sales outlets of utilities, manufacturers and dealers will be put into effect without delay. The entire program shows a manifest desire of the Section to cooperate in every way possible with the national advertising program which is currently uniting the industry in the greatest sales drive in its history.

While a few of the working committee of the Section will hold meetings early in January to chart their course for the year, most of the committees outlined the scope and direction of their activities during the organization meeting in Atlantic City.

Among the new activities to be taken up by the Section, and probably the most ambitious in scope, is the study of the economics of the gas industry, covering production, transmission, distribution, servicing and marketing angles. A committee jointly representative of the sales, technical, and rate structure aspects of the business will be appointed to undertake the correlation of all material available on the subject and to make further studies.

Different phases of this subject which have been published previously include:

1. Original report of the Technical Section on "Economic and Engineering Survey of the Gas Industry."
2. "The Economics of Gas House Heating" by Herman Russell and his associates at Rochester, N. Y.
3. "A Study of the Domestic Gas and Electric Load from the Viewpoint of Rate of Return" by Mr. Russell at the 1936 A. G. A. Executive Conference.
4. Addresses on "The Economics of Energy Distribution" by A. M. Beebee and R. E. Ginna at the Technical Section meeting, October 27, 1936.

F. M. Banks
Chairman
Commercial Section

Hugh H. Cuthrell
Vice-Chairman
Commercial Section

R. E. Williams
Chairman, Water Heating Committee

H. P. Morehouse
Chairman, House Heating and Air Conditioning Committee

Elizabeth Sweeney
Chairman, Home Service Committee

H. E. Dexter
Chairman, Appliance Financing and Dealer Relations Committee

Hall M. Henry
Chairman, Refrigeration Committee

Lee Holtz
Chairman, Appliance Installation and Servicing Committee

L. W. Johnson
Chairman, Domestic Range Committee

H. H. Swenson
Chairman, Home Modernization Committee

H. Vinton Potter
Chairman, Window and Store Display Committee

5. "Are You Telling I?", address presented by J. F. Haftenkamp at the Commercial Section meeting, October 27, 1936.

Attention will also be given to the several studies now being made by gas companies to ascertain trends of domestic consumption of present customers, the reasons for such trends and methods of developing further increases in domestic load. Among the items to be investigated are:

Effect of replacement of old gas appliances by new models; effect of electric table cookery; effect of automatic refrigerators on the domestic cooking load; and the effect of oil burner installations on gas water heating consumption. The group in charge of this work will endeavor to foster analyses of this kind by member companies, as well as report upon analyses already in progress.

Following is a brief outline of the committee activities which have been developed to date:

Water Heating

The Water Heating Committee, R. E. Williams, chairman, composed jointly of representatives of the gas utilities and the water heater division of the Association of Gas Appliance and Equipment Manufacturers, will devote much of its time during 1937 to promotion of a national automatic water heater sales contest. The decision to sponsor this second national contest is the result of enthusiastic responses received from water heater salesmen, gas companies and manufacturers at the close of the 1936 contest. Sales of automatic gas water heaters during the first contest by companies participating were 55 per cent above the previous year.

The contest will again extend from February 1 to September 30, with option to start on January 1 and end August 31 for those companies desiring to do so. Rules and regulations have been greatly simplified. Prizes totalling more than $18,000 will be distributed. Cash prizes for gas company salesmen have been increased in number and value over the previous contest. Four series of prizes will be awarded as follows: monthly prizes to individual salesmen; merit medals to gas company salesmen for meritorious performance, in addition to the individual cash prizes; prizes to individual salesmen for eight months' sales records; company prizes.

The committee plans to capitalize more fully upon the activities of the home service departments during the new contest through the cooperation of the Home Service Committee.

The gas water heater division of the Association of Gas Appliance and Equipment Manufacturers also plans to conduct a separate national sales contest for plumber-dealers concurring with the contest of gas utilities sponsored by the committee.

A study of the importance and results of promotional rates upon the sale of automatic gas water heaters will be a further activity of the water heater committee. This will be handled by a separate subcommittee.

House Heating and Air Conditioning

In discussing plans of the House Heating and Air Conditioning Committee, H. P. Morehouse, chairman, referred to the engineers handbook produced two years ago by the New Jersey Gas Association and proposed that his committee undertake the publication of this manual in revised form if interest warranted it. Mr. Morehouse also called attention to the Visualized Looseleaf Salesman's Manual which has been utilized successfully by the Public Service Electric and Gas Co., Newark, N. J., and which might be made available with modifications for purchase by other member companies of the Association. The scope of the manual is indicated by the section headings, which are as follows: Institutional, Public Acceptaance, Heat Conservation Materials, Oil Heating, Coal Heating, Gas Heating Costs, Winter Air Conditioning, New Construction, Modern Basements, Domestic Hot Water and Manufacturers' Literature.

It was also proposed that the committee report to the membership at intervals on developments in the design and construction, sale and installation of all types of gas house heating and air conditioning equipment.

Home Service

Comprehensive plans for home service activities have been made by Elizabeth Sweeney, chairman. In addition to cooperating in the conduct of the national sales campaigns, the committee will continue its present regional groups and the home service programs as a part of the regional gas sales conferences. Home service budgets and operation will be studied as a part of the committee's work. Specific information from typical companies will be compiled for this purpose.

Country-wide news of home service for use in the gas trade publications will be secured by a publicity committee made up of home service chairmen of regional groups. A second function of this committee is to supply an occasional "Consumer Editor" page for the bi-monthly Home Service News Letter issued from the home service counsellor's office.

Research on oven canning is one of the most interesting studies to be made during 1937 by the Home Service Committee. All available records on the subject will be collected and plans considered for action by the Association's research committee in the determination of canning recommendations for adoption by all gas companies. Kitchen planning is also expected to receive considerable attention from the home service group. In this connection a request is being made to the Kitchen Modernization Committee for kitchen planning information suitable for a sales-slanted presentation for inclusion in cooking school programs.

Other important activities of the committee include: Development of a bulletin on school home economics laboratories, contest for better sales-getter demonstration covering both ranges and water heaters, development of new ideas for cooking schools, and preparation of a home service training course. This latter activity is receiving considerable attention. It is proposed to establish a home service training course for college students covering first-hand information on home service work in the gas industry. The committee plans to offer such a course to last from one week

(Continued on page 39)

Model Home Aids Gas Heating Sales

CIVIC leaders, city officials and other notables attended the opening of the all-gas model home at Berwick Park, Stroudsburg, Pa., September 26. Since that time thousands of visitors have inspected the modern gas equipment in the home installed by the Citizens Gas Company.

The model home, which is early American Colonial type, in addition to being equipped with gas range, refrigerator, incinerator and water heater, contains the first gas house heating unit in Monroe County. According to Ralph H. Fry, division manager of the Citizens Gas Company, this installation "is directly responsible for us securing, to date, space and house heating load for the coming winter season amounting to approximately 4 per cent of our total annual sales."

Mr. Fry states further that the installation has helped his company to secure four large Surface Combustion unit heaters which will act as auxiliary heat for the second floor of the largest department store in this borough. The company has 2,250 meters and the house heating rate is $.60 after the first 5000 cubic feet.

Regional Sales Meetings in February

THREE regional gas sales conferences sponsored annually by the Commercial Section of the Association will be held during February in Pittsburgh, Memphis and Chicago. Each will be a three-day meeting at which important sales topics will be discussed.

The Eastern Natural Gas Sales Conference under the chairmanship of F. T. Rainey, Ohio Fuel Gas Co., Columbus, Ohio, will take place in the William Penn Hotel, Pittsburgh, February 4-6.

The convention of the Southern Gas Association and the Southern-Southwestern Regional Sales Conference will be held jointly, February 10-12, at the Peabody Hotel, Memphis. William E. Leverette, Nashville Gas and Heating Company, Nashville, Tenn., is chairman of the sales conference group.

J. F. Jones, Battle Creek Gas Co., Battle Creek, Mich., will conduct the Mid-West Regional Gas Sales Conference at the Palmer House, Chicago, February 18-20.

Industrial Gas Section

Ralph L. Manier, Chairman Eugene D. Milener, Secretary Hale A. Clark, Vice-Chairman

What Industrial Gas Means to the Balance Sheet

By FRANK C. SMITH
President, Houston Natural Gas Co., Houston, Texas

Frank C. Smith

In this highly stimulating address Mr. Smith calls attention to the salient needs of industrial gas selling. One of these needs is "advertising, modern, interesting, truthful, supported by and based on an intelligent and comprehensive survey service of potential customers." As a step in the right direction your attention is directed to the article by J. P. Leinroth in this issue describing the current trade paper campaign sponsored by the Industrial Gas Section.

SOMETIMES I hear gas men say that the domestic load is the backbone of the business, that we need it to pay our fixed charges and so on, and that any profit we make will have to come out of the sale of industrial gas. No doubt this is true. The fact remains that our gas distributing systems are made up of pipes in the ground, used very seldom to their maximum capacity throughout the twenty-four hours of the day, and never at a maximum through the week, the month or the year. We all know that domestic delivery has first call on our facilities; home owners must be warmed, even though the boilers may get cool. We are all well aware that our primary obligation, whether from expediency, necessity or politics, is to the individual home, and this is perfectly proper.

But there are lots of times when pressure on the gas in these lines of ours is very low, when the call on us for domestic use is not great, although we have the same investment as in the period of heavy demand. Gas distributing systems without substantial industrial loads are like ice-skates in South Texas. If we do not get much good out of them, they are still nice things to have, provided the stockholders do not care particularly about a return on their investment and provided the owners are in business for their health and not for financial returns.

I do not have to tell you how industrial gas sales level out the graphic curve of delivery through gas lines, how the curve, instead of humping its back toward the top of the page in the wintertime and nose-diving to the bottom in summer, straightens out its profile and becomes, if not a straight line, at least a curve of pleasing aspect, without the jagged points that tell of high load or no load. To apply this process to your balance sheet, you will have to analyze the cost of doing your domestic business, the cost of making your domestic deliveries, your domestic plant investment, and all of the other factors of this portion of our business which has prior claim on us, that is, the domestic or residential load, and then determine what is the *additional* cost of all items incurred in the delivery of gas for industrial use. If our domestic business is to receive our homage as the backbone of the industry, it also should stand alone as the means of earnings to justify the entire physical set-up required for domestic delivery.

We have no option as to domestic service. Regardless of the amount of gas that will be consumed, we must serve domestic customers within the provisions of our franchise, often at a loss. Now, we do not have to make contracts for industrial gas deliveries except as we wish to do so. I would not be inclined to strike out across the country with a pipe line for the sole purpose of serving a single industry, which barely paid a reasonable return on the investment, unless I felt reasonably sure of the permanency of the customer and unless I felt that other business might crop up near it and become tributary to that line and make the investment well worthwhile. My point is that the physical establishment, or plant investment, call it what you will, required for domestic deliveries is largely useable also for industrial deliveries, and that the additional cost of equipping and adding to it,—the required increase in pressure,—all of these additional costs are invariably far *smaller* in ratio to the cost of our domestic plant than is the ratio of our industrial profit in terms of dollars to our domestic profit.

To illustrate this point: In 1935 the domestic gas sales of the natural gas industry in the United States was 59% of the total, with the other gas sales accounting for the remaining 41%, of course. Nobody will argue that the plant investment required for the two classes of delivery correspond. It is probable that the percentage of cost of a plant for domestic delivery, were there no industrial delivery, would be nearer 80% of the total than 59%. In one small system, of which I have knowledge, not the one with which I am associated, its sales in 1935 were 56% domestic and 44% industrial. Now its gross sales profits were 83% domestic and 17% industrial, because, of course, industrial rates are lower and the margin of profit less. But the 17% gross profit from industrial sales was far greater in dollars than the net operating profit which the whole system made in 1935. This is another way of saying that, had it not been for the industrial sales, this system would have suffered a net loss in 1935.

Of course, there is a lot more to the business of the sale of industrial gas than the matter of making a dollar profit or a dollar loss. Many of us who have given a great deal of time and attention to the subject have agreed long ago that customer goodwill in our domestic business is worth seeking, worth sacrificing for, worth the dignity of being made a part of our operating policies. I give you this thought in connection with public relations as concerned with industrial gas sales. Relations between the gas company and the industrial users of gas are naturally on a good basis. Before using gas as a fuel, the industrial user has invariably investigated or, at least, has been shown, the various fuels available and has come to the conclusion that gas is the best fuel of *all* the various fuels available. The gas company's relations with him are on a firm and favorable basis at the beginning.

Most of our difficulties with our domestic customers come up by reason of misunderstanding. Meters are sometimes mysterious things to them, leaks in house-piping are frequently attributed to the gas company, and the failure of the general public to understand and appreciate the problems of domestic gas distribution is one of our problems of public relations. But the industrial user of gas is invariably organized so as to watch his

Address before Industrial Gas Club Luncheon, A. G. A. Convention, Atlantic City, N. J., October 28, 1936.

gas consumption, to know currently how much gas he is using and to check his use of gas against the volume of his plant's output. Furthermore, he is invited to look upon us not only as a seller of gas but as a technical consultant with regard to its proper use. It is true that this imposes upon the gas company the additional responsibility of having competent technical advisors, but it is a responsibility that we should welcome, since it tends to cement the friendship between our company and our industrial users.

A good deal is being said just now about the large sums of money we are spending to convince the public that the domestic use of gas is modern. It is quite as true that the industrial use of gas is modern and I, for one, am heartily in favor of the expenditure of a substantial part of our national advertising funds to bring this to the attention of industry. I shall refer later to a conspicuous instance of such advertising now being done in large volume by a single concern.

Market Survey Needed

So far, having established, let us say, the fact that industrial gas sales are desirable for perfectly obvious and well-known reasons, which apply to the business of all gas distributing systems, perhaps, in varying percentages and ratios, but nevertheless, for reasons which apply generally, I want to talk for a little bit about two or three things we need most to increase the industrial load. One of these is a market survey. Any business that is worth going after is worth surveying completely, exhaustively and in detail as the first step in going after it. Naturally, the truth follows here that not only should a survey include all of the possibilities of the industrial use of gas by established businesses in the area under consideration, but should also include, to be complete, just as exhaustive and detailed surveys of all resources, natural and otherwise, of the area, which may be processed and become sources of demand for industrial gas.

Now I come to a point upon which many of you are as well or better posted than I, and on which some of you will disagree with me. I am aware that there are many equipment manufacturers who manufacture the gas-fired equipment with which we use gas for commercial and industrial purposes. I am making no suggestion to the effect that they do not furnish industrial equipment as it is needed, nor indeed that they do not anticipate the apparent needs of the industry by the invention and development of gas-fired equipment. Whether they do or not, I have a suggestion to offer, which I made a year ago at our Convention in Chicago, and which I hope to continue to advance until something is done about it. In that suggestion I take some leaves from the book of experience of the great electrical equipment manufacturing companies, whose service to the electrical industry has enabled it to take the play away from the gas industry in many instances and which, to tell the truth, is pressing us hard on many fronts. The principal chapters in their book of experience, if there were such a thing, would be devoted to research, pure research, practical and applied research, research with ample funds to finance it, with fine equipment to pursue it, with the interests of the whole industry to serve instead of the interests of any one narrow segment of it. I visualize as not only desirable but essential for the gas industry a service of research, supported by our Association and by the gas appliance and equipment manufacturers, that will do for the equipment manufacturers and for the gas industry what the famous House of Magic has done for the electrical appliance manufacturers and for the electrical industry. I look forward to and hope for a research institution, under trustworthy and independent direction, where science and inventive genius can be applied to the problems already known to us and to the great field of development not yet known to us, the realization of which may be delayed for years by our present limited means for research.

Industrial Gas Research

I have read with great interest and admiration the report of the Committee on Industrial Research of our Association, which was made last May, and, lest I be misunderstood, I wish to commend and compliment that committee on the work it is doing, particularly in consideration of the means at hand. I believe that the work of the committee is an outstanding contribution to the industry. Practical problems are being worked out in industrial equipment manufacturing plants at the request of the committee, and in accordance with its recommendations. But pure research is not a part of the functions of this committee, and pure research is not being done in the gas industry. No work is being done, so far as I can find out, to discover a use for gas in industry other than by the well-known and primary functions of heat-treating and power-generating.

We know that splendid work is being done in the direction of development of power units, using gas for air-conditioning equipment, but who is working upon the problem of a gas-operated air-cooling unit for a single room or office? We know exactly what the problem is, but the gas industry has no foundation or institute of research which may apply itself to that problem and continue to work at it until its solution.

Before I leave entirely the matter of gas-burning equipment, let me offer this thought: Lowering the cost of gas-fired industrial equipment should be of even greater interest to the manufactured gas industry than to the natural gas industry, and I should think that the manufactured gas industry would leap at the opportunity to reduce such costs by supporting

(Continued on page 34)

GOING AHEAD

WITH INDUSTRIAL GAS

Hang 'Em Up and Turn 'Em On

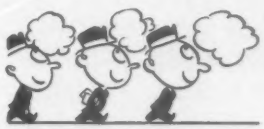
Unit heaters using industrial gas are among the fastest selling pieces of heating apparatus for stores and factories.

If those potters ever succeed in keeping Japanese china out of this country, watch industrial gas sales jump faster than ever.

Biggest battle now going on in industrial heating—to get the lion's share of controlled atmosphere furnaces. Keep your eye on industrial gas!

In discussing the National Metal Show, held in Cleveland in October, the *American Machinist* had the following to say about the Industrial Gas Section's cooperative display:

"GAS MINDED"



"In grouping their exhibits, makers of equipment and accessories using gas did a smart thing in a pleasing way. Electric heating has its place, but such displays as the Gas Section play a big part in keeping industry gas conscious. Ability of gas furnace makers to adapt their designs for controlled atmospheres and uniform heat was highly convincing."

The Industrial Gas Section's season for displaying in industrial shows came to an end December 9 with the Regional Hotel Show in Washington, D. C. All hands agree that the five shows were effective efforts to put over industrial and commercial gas in specialized fields.

As an example of the extent to which gas is being advertised to industry, in the last issue of *Industrial Heating* equipment advertisements specifically mentioned industrial fuels as follows: Gas—14 times, Oil—7 times, Electricity—6 times, Coal—twice, and Coke—once.

Every month more gas companies and equipment manufacturers are using the Industrial Gas Section's slogan chart in their advertising. Why not use it yourself? It's the quickest way yet found to make your customers realize that "The Trend Today is to GAS—the Modern Industrial Fuel."

Latest figures show industrial and commercial gas sales more than 20% over last year, and still going up.

Gas at Restaurateurs' Convention

Gas exhibit at the convention of the National Restaurant Association

PROMINENT at the immensely successful regional convention of the National Restaurant Association held in America's famous Mayflower Hotel in Washington, December 7-9, was the display of heavy duty gas cooking equipment. Sponsored jointly by the Washington Gas Light Company, the Industrial Gas Section of the American Gas Association and a group of manufacturers, this gas display which occupied 56 feet of the Mayflower's main lobby, was one of the largest and most impressive of its kind ever seen.

Featuring the latest developments in gas ranges and other diversified gas appliances for restaurants, this exhibit was visited again and again by convention delegates and restaurant executives ever on the lookout for better and more efficient equipment and favorable comments were heard from every side. Interest-compelling sections of the display included the recently developed top and bottom controlled deck bake ovens, deep fat fryers of improved design, several sections of heavy duty gas ranges, a 10 cu.ft. gas refrigerator, automatic gas space and water heaters, etc., all skilfully spotlighted. Along the wall was a 50 ft. sign reading "Gas Is Best for Cooking, Refrigeration, Water Heating and Space Heating."

While this was a regional affair, the attendance was around the 2,000 mark and was drawn from twelve states. Many gas company and gas appliance manufacturer representatives took advantage of the opportunity to increase their contacts in the restaurant trade. In fact substantial lists of real prospects were obtained. The gas exhibit, manned by representatives from the Washington Gas Light Company and from manufacturers, was by no means the only display of gas equipment. Many of the other exhibitors showed various gas-operated gadgets such as gas coffee brewing sets, improved gas coffee urns, the new automatic gas toasters, etc., etc.

Miss Mae Chaimson, hostess at the gas exhibit, proffers a tidbit to Julius Lulley, of Harvey's Restaurant, president of the Washington Restaurant Association

The gas exhibit was under the supervision of Henry M. Brundage, Jr., general sales manager of the Washington Gas Light Company. The Association's cooperation was through the Committee on National Industrial Displays of which Harry A. Sutton is chairman.

INDUSTRIAL GAS AND THE BALANCE SHEET

(Continued from page 33)

a research institute; and further: that the more industrial gas is sold, the more gas equipment is going to be required to use it; and that the more gas equipment is required, the better it should become and the lower its sales cost, and, therefore, the less investment required of industrial gas users. However, it is also true that the more industrial gas is used, the less industrial equipment will be sold to industry for competitive fuels; the less manufactured and sold, the higher will be its cost, and the more investment will be required for plants using competitive fuels. Now this corollary: the more industrial gas used and the more gas-fired industrial equipment sold, the more encouragement there is to manufacturers to enter this field and to enlarge their activities in the field of designing and building gas-fired equipment.

We have seen this carried out in perfect detail in what has been to us a painful process—encroachment of the electric industry upon our own. These tables can be turned, but not without adequate research, full support of the equipment-manufacturing industry by the gas industry and by going after industrial gas sales with the determination that we shall not be denied.

Industrial Sales

Now let me turn to the matter of sales. I have talked about sales leading to the requirement of more gas equipment, which, in turn, will lead to better and less costly equipment, and this, in turn, to the enlargement of the equipment-manufacturing industry,—all desirable, you will agree. Perhaps you will think that I have the cart before the horse and that it is going to take an improvement in methods and in equipment in order to make more gas sales. I think this is true also, hence my plea for your interest and support of a program of research; but I am also quite certain that the sales end can be worked on at the same time. Let me illustrate.

A little while ago I said that a comprehensive and detailed market survey is indispensable; a survey both of existing concerns which might be interested in using gas and of natural resources, in processing which gas might be used. Now I call your attention to what I consider to be another essential; a reliable survey service for prospective customers.

I ask pardon for the reference to our own system, which has carried out its surveys in great detail and which also has brought natural gas favorably to the attention of the industrialists of the United States. I am referring to the service offered by the advertising campaign of the Houston Pipe Line Company. This concern has prepared itself to furnish any given industrial management the factual information it might need in considering South Texas as a location for a plant. Each

survey is, and has been, specially worked up for each request.

After this service had been established by the company and its practicability and desirability tested, an advertising proggram was begun, organized in three parts. First, for advertising designed to reach the whole broad market of industry; second, trade-journal advertising to reach specific industries, and, third, direct-by-mail advertising to reach the individual. For the general advertising, full-page space in the magazine, *Fortune* has been used exclusively. This advertising is of a general nature, based on Texas, Texan in outlook and in language. The trade-journal advertisements are much more direct in their messages, telling a plain, quick story of the natural resources of South Texas, with a map of the region, and emphasizing the invitation to send for a survey. The direct-by-mail campaign consists of personal letters addressed to the chief executives of those industries which the company's survey has indicated would find it advantageous to locate in the Texas Gulf Coast territory.

The campaign has been successful; demand for surveys has been constant and brisk. Their infinite detail and comprehensive topical construction would excite your admiration. No matter how many topics are related to the industry in a given survey, those topics are covered completely, subject heads often reaching twenty-five or thirty and the survey itself 150 to 200 pages, including maps, charts and graphs. These surveys represent the collective effort of a research staff embracing chemists, mining and metallurgical engineers, statisticians, natural gas engineers, civil engineers, fuel engineers, geologists, paleontologists, traffic experts, land and tax experts, water engineers, construction engineers, timber and pulpwood experts, and outside experts in subjects related to individual enterprises in connection with which the permanent staff is without experience and technical familiarity.

The story is reaching the people it is intended for. Though the campaign is less than a year old, concrete results have been obtained, industries have been located tributary to the company's lines and substantial deliveries of gas contracted for. Labor is busy erecting their plants. Building material plants at home and equipment manufacturers in the East and North are busier by reason of this campaign and its accruing results, and, incidentally, gas is being sold in these material and equipment manufacturing plants that would not have been sold without it. Labor is employed in larger volume that would not have been employed. Industry generally has benefitted that would not have felt this benefit, were it not for this enlightened and forward-looking campaign of advertising.

How do you suppose this advertising campaign, supported by the efforts of our distributing companies, has impressed the people whom we serve and may serve in

(Continued on page 37)

Attractive Gas Exhibit Feature of National Power Show

ONE of the biggest features of this year's National Power Show, the world's largest "get-together" of power men, was the gas exhibit sponsored by the Industrial Gas Section of the American Gas Association in cooperation with the Consolidated Edison Company of New York, the Brooklyn Union Gas Company and the New York and Richmond Gas Company. Held in New York, Nov. 30-Dec. 5, this year's show occupied three floors of the Grand Central Palace as compared with two floors last time. The gas exhibit was the largest and most attention compelling of all and was most favorably located just to the right of the main entrance on the first floor.

The walls were covered with large pictures and display panels. The center panel featured air conditioning and dehumidification; one side wall was devoted to industrial furnaces and atmosphere and temperature control and the other wall carried pictorial demonstration of volume drying. Interposed were many large scale photographs of old line industrial equipment. The whole was held together by a most beautiful and effective scheme of lighting consisting of a continuous line of glass blocks, shoulder high, with lights behind them. The floor space was covered with displays of various gas equipment furnished by cooperating manufacturers and representatives were present to describe them.

As usual the mass attendance at the show was augmented by timing it with the annual convention of the American Society of Mechnical Engineers, most of the members being either directly or indirectly interested in power in one form or another. Open day and evening, the attendance was just under 40,000.

Direct Power Application Featured

Both manufactured and natural gas equipment were played up and one direct power application was featured. This was a picture of the recently developed engine-driven refrigerating unit operating on gas. This was designed for use with any domestic or commercial air conditioning and refrigerating equipment. In this connection, the air conditioning panel brought out the fact that any desired combination of the several elements in complete air conditioning were available with gas air conditioning units and these only. Dehumidification is possible alone, or with either heating or cooling, a characteristic of the gas type of equipment solely.

Many industrial gas men and gas company executives attended and found much to interest them in the equipment of the various participating manufacturers, some of which was lighted up and operating. The Ensign-Reynolds Company of New York had a table of gas burners of all types together with an air compressor. Some of these burners were lighted. Of special interest was a 10 ft. ribbon burner. The American Gas Furnace Company of Elizabeth, N. J., had a shaker hearth furnace in full operation with air blower and controls. The Bryant Heater Company of Cleveland, Ohio, displayed one of its latest type dehumidifiers with air cooling attachment, also in full operation.

Of singular interest was a safety device in which the pilot light flame was a part of a circuit. If the light went out, the circuit was broken and a motor valve instantaneously shut off the gas supply. This was shown operating, together with two thermostatic controls, one with a magnetic, and the other with a motor valve, by the Partlow Corporation of New Hartford, N. Y. An indicating pyrometer was connected to each to show the closeness of control.

An automatic water heater of the storage type with multiple tubes and burners was part of the exhibit of the United American Bosch Corporation, Springfield, Massachusetts. This concern also had a beautiful cabinet type storage water heater (automatic) for domestic use.

Gas Steam Boiler Shown

A full automatic steam boiler of 5 horse power with automatic water feed was shown by Mears-Kane-Ofeldt, Inc., Philadelphia, Pa. A Humphrey warm air heater, 40 in. x 36 in. wide x 25 in. high, to take care of a six room house, was exhibited by the General Gas Light Co., Kalamazoo, Mich. This is a beautifully compact unit with a most pleasing finish. There was also a ceiling suspension type unit. Surface Combustion Corp. of Toledo, Ohio, prominently displayed its latest design of Janitrol, one of the most successful automatic gas burners for converting central heating plants in the home. Another house heater of the boiler type, built into a handsome and compact cabinet, is that of the American Gas Products Corp., New York. This also is fully automatic. Several small heat treating furnaces, one fully lighted, was shown by Charles A. Hones, Inc., of Baldwin, N. Y.

Due to the great number of people interested in cooking and the fact that the show was held in one of the world's largest hotel centers, the opportunity was taken to show a deep fat fryer with gas immersion burners. The tray for the doughnuts, potatoes, etc., is raised and lowered by foot. The hot products of combustion, instead of being vented at the ends of the tubes, are circulated in ducts in the kettle walls.

Technical Section

M. I. Mix, Chairman H. W. Hartman, Secretary J. V. Postles, Vice-Chairman

Technical Section Organizes for Active Year

J. V. Postles

By J. V. POSTLES

The Philadelphia Gas Works Co., Philadelphia, Pa.

AT the organization meeting of the Technical Section in Atlantic City, October 29, and subsequent meetings of the main committees in New York, December 4 and 7, an enthusiastic start was made in the formulation of plans for the 1937 program of the Section. The meetings were conducted under the direction of M. I. Mix, Chairman of the Section. Activities to be undertaken include the continuation and coordination of many studies begun last year as well as the inauguration of a number of important new projects.

Much of the work of the Section will be covered in papers presented at the Distribution Conference in Washington, D. C., April 12-14, and at the joint conference of the Production and Chemical Committees which will take place May 24-26 in New York City.

Following is a brief summary of the programs of the major committees as they have been developed to date:

Chemical Committee

Activities of the Chemical Committee, under the Chairmanship of J. F. Anthes will be conducted through four main subcommittees: Analyses and Tests, New Developments, Nitric Oxide Units and Methods, and the Gas Chemists' Handbook.

The Subcommittee on Analyses and Tests will study various analytical methods, including the determination of oxygen, organic sulphur, means of identifying explosive gases in small concentration and tests related to purifying materials.

Scientific developments affecting the technique of gas production, distribution and utilization will be investigated by the Subcommittee on New Developments. Its program will include unit operations in chemical engineering of interest to the gas industry, recent developments in gas purification, conditioning, the gum problem and natural gas. The study of diaphragm dressings for gas meters and regulators will be continued. Work started last year to determine the relative value of steam and inerts when purging in the presence of oil will be further investigated.

The role of the chemist in the development of house heating and the composition of flue gases when gas is burned with insufficient air will be presented as papers at the Spring Conference. An index of all material of a chemical or chemical engineering nature presented before the American Gas Association, the American Gas Institute and before the Production and Chemical Committee Conferences is being prepared for distribution at the Spring Conference. This will bring up to date the list of all such materials since 1907 and should be of real benefit to the industry.

The Subcommittee on Nitric Oxide Units and Methods is studying the methods for determining nitric oxide in gas with the object of developing a standard method of test and will recommend a method for expressing the concentration of nitric oxide in manufactured gas. There is a real need for such standardization and the industry should benefit from this study.

The Subcommittee on the Gas Chemists' Handbook is supervising the publication of the booklet "Application and Interpretation of Gas Analyses and Tests" which is being published by the Chemical Committee and edited by C. G. Segeler of the American Gas Association Headquarters. The subcommittee is at present reviewing the first draft of this publication.

The subcommittee was also instructed to proceed with the revision of the Gas Chemists' Handbook along the lines previously recommended. In this revision methods of sampling and analyzing gases will be brought up to date and published in a separate volume.

Gas Production Committee

Chairman R. E. Kruger, of the Gas Production Committee, has organized on the usual lines of having three main subcommittees; Water Gas, Carbonization and Coke and the Builders' Section.

The Water Gas Subcommittee will do more work on correlating the experiences of various plants with gum. It is proposed to investigate steam jet cooling, which would be a great help to all gas plants where, at certain times of the year, there is a scarcity of cool water. The small investment required for this apparatus makes the installation attractive if it operates successfully. New water gas generating apparatus will be investigated, both from the standpoint of mechanical grates and hand-clinkered machines. The Semet-Solvay reverse flow machine at Springfield, Mass., will be considered under the latter heading.

This subcommittee will have a paper for the Spring Conference on Holder Inspection. This subject has interested many gas companies recently and many holders have been taken out of service and a thorough inspection made.

The Carbonization and Coke Subcommittee plans to continue its work on the addition of breeze to coal before carbonization. This year a study will be made of the effect on coke crushing. In the past years, study on this subject was limited to the effect on coke handling. If this second part of the study is completed in time, a summary of all the previous work on the mixing of breeze with coal may be prepared. Additional study will be given coke to correlate the physical structure to actual coke use as well as the effect of coal blending on coke structure and by-product yields.

The committee hopes to present a description of the new type of Becker Oven, if it is possible to secure it at this time.

Papers are contemplated on "Plant Safety and Fire Prevention Practices and Organization," "Dust Elimination Methods in Coal Carbonizing Plants" and "A Description of an Improved Coal Expansion Tester Together with Curves Recorded from Various Coals."

Recently the by-product market has strengthened sufficiently to warrant the sale of certain materials which were not profitable previously. A paper is expected on "Recent Developments in Obtaining Revenue for Carbonization Plants."

At the Gas Production and Chemical Committee Conference last Spring, luncheon conferences were held for the first time and both of the committees voted to continue them this year with the additional thought that they be held early enough in the conference so that they can be reported at an open forum the last afternoon.

Distribution Committee

The work of the Distribution Committee, under the Chairmanship of D. P. Hartson, will be grouped around the main committees which will be similar in organization to those of last year.

The Subcommittee on Cast Iron Pipe Standards will consider any necessary revision of A. G. A. standard specifications to conform with other standardizing organizations such as the American Standards Association, etc. The strength of material for underground pipes in order that they may withstand the forces that act on underground structures will also be studied. This is a very broad subject and will require the collection of much data.

The effect on the tightness of joints when a change-over is made from manufac-

tured to natural gas may be studied further by the Subcommittee on Pipe Joints and Pipe Materials. There will be a paper on the use of oils such as Carboseal for the elimination of leakage in cast iron joints and possibly one on copper pipe for services. This committee will bring up to date the developments in welded, coupled and screwed joints as well as methods for welding high pressure fittings. Together with the manufacturers, it is hoped there will be worked up specifications for installing leak clamps.

The subject of service to customers is still considered a Distribution subject and possibly a paper will be prepared on this.

A member of the Distribution Committee was appointed to represent the A. G. A. in the City Officials' Division of the American Road Builders' Association. This will keep the Distribution Committee informed on any action taken to standardize on locations for the various utilities.

The Subcommittee on Pipe Coatings and Corrosion will continue the work of Dr. Scott Ewing and supervise the work of preparing a handbook based upon the important data he is collecting.

The Subcommittee on Meters will make further tests on small flow tests and revision of meter specifications.

While it is anticipated that papers on all of the above mentioned subjects will be presented at either the Conferences or the Fall Meeting, it is quite possible that the plans of the various committees may be changed and no report made this year on some subjects and other subjects, not anticipated at this time, will take their place.

COMFORT FROM GAS

(Continued from page 21)

fluctuations of voltage caused by the on and off cycle of the 15 H.P. compressor motor and to insure fully automatic control.

Discussion

A cost estimate for replacement of the present silica gel and condensing unit combination with one freon refrigerating unit to accomplish both dehumidification and cooling showed an increased investment of approximately $200. In other words, for this particular installation there is little difference in initial cost, the balance between the two types of systems with this percentage latent heat removal being apparently for jobs in the range of 30 to 35 tons of refrigeration. Operation of the above mentioned freon refrigerating unit to replace the present silica gel set-up would have caused substantially no increase in operating cost.

Based on data obtained from the operation of the Beeville plant, together with estimated figures on other silica gel designs it is concluded that silica gel gas dehumidifiers, from the standpoint of initial investment and economy in operation, have their principle application in comfort air conditioning installations larger than the average residential and small office type. The ratio of latent to total heat removed from the air is an important factor in addition to prevailing utility rates which directly influences the point of economic balance. While the silica gel dehumidifier finds its principal application with the larger installations, particularly in the South where water temperatures are usually high, an exception to this is found where a sufficient quantity of cheap well water is available at temperatures of 70° or lower which can be used for cooling in connection with the dehumidifiers.

Tests conducted at Beeville have shown the great flexibility of gas-operated silica gel equipment over a wide range of weather conditions. Positive and independent control of temperature and humidity is accomplished without resort to low temperature cooling.

The gas consumed for summer cooling of the office building in this territory is approximately three times the winter heating requirement and it is an off peak load.

INDUSTRIAL GAS AND THE BALANCE SHEET

(Continued from page 35)

South Texas? City officials all over the system, Chamber of Commerce executives and other substantial citizens have written unsolicited letters, expressing appreciation of the enlightened policy that has brought about favorable publicizing of their own cities and towns as well as of our gas industry. I refer again to my previous comment that the sale of gas for industrial use (and I now add to it the advertising of gas for industrial use) in industrial communities in which gas may be used profitably are potent sources of customer and general civic goodwill.

Industrial gas sales are *desirable;* they help to solve operating problems, to satisfy commitments for gas takings, and to equalize our pressures, labor and other requirements. Industrial sales are *advantageous;* they require no such financial additions to plant investment as is required by initial domestic distribution. Industrial sales are *profitable;* often their net profit constitutes the difference between red figures and black in gas company operations.

This desirable, advantageous and profitable business of industrial gas selling needs, first, constant improvement in gas equipment through practical development under actual conditions by equipment manufacturers; second, research properly directed, adequately financed, unanimously supported by the gas industry and equipment manufacturers to the end that our industry may have the benefit of scientific and experimental study, directed towards all possible applications of gas to industrial use; and, third, it needs advertising, modern, interesting, truthful, supported by and based on an intelligent and comprehensive survey service for potential customers to the end that all business which is interested in growth and development shall find to be an indispensable part of its progress,—that industrial essential,—industry's most efficient fuel,—GAS.

Association Holds Annual President's Dinner

MIXED seriousness and good humor prevailed at the President's Dinner of the American Gas Association which took place December 8 at the Engineers' Club in New York City. An annual affair to acquaint new officers of the Association with one another and to discuss plans of the various Sections for the coming year, the dinner was attended by the Association's officers and members of headquarters' staff.

President Herman Russell, acting as toastmaster, invoked an informal vein of humor throughout the proceedings which greatly enlivened the event. His opening and closing remarks were the highlight of an interesting evening.

Among those who spoke briefly on Association affairs were: N. C. McGowen, vice-president; T. J. Strickler, chairman, Committee To Conduct National Advertising; Henry Obermeyer, chairman, Publicity and Advertising Committee; George E. Welker, chairman, Natural Gas Department; Ralph L. Manier, chairman, Industrial Gas Section; M. I. Mix, chairman, Technical Section; Herbert E. Cliff, chairman, Accounting Section; Hugh Cuthrell, vice-chairman, Commercial Section; John A. Fry, chairman, Manufacturers' Section, and Alexander Forward, managing director.

Other guests included: Hale A. Clark, vice-chairman, Industrial Gas Section; J. V. Postles, vice-chairman, Technical Section, and R. M. Conner, director, A. G. A. Laboratories.

Members of Association's headquarters' staff, in addition to Managing Director Forward, present were: H. W. Hartman, K. R. Boyes, Paul Ryan, C. W. Person, John W. West, Jr., Eugene D. Milener, A. Gordon King, C. G. Segeler, and J. M. Beall.

Testing Laboratories

R. M. Conner, Director — Managing Committee: J. S. DeHart, Jr., Chairman — N. T. Sellman, Secretary

Subcommittee on Approval Requirements for Gas Ranges which met October 21 and 22 at The United Gas Improvement Company Laboratory in Philadelphia, Pa., to review comments submitted on recommended revisions to approval standards. Left to right: A. M. Apmann, Derby Gas & Electric Co.; N. J. Reiff, United Gas Improvement Co.; J. R. Denise, Consolidated Edison Co. of New York, Inc.; J. A. Whittington, The Peoples Gas Light and Coke Co.; P. J. Gratiaa, The St. Louis County Gas Co.; F. R. Wright, A. G. A. Testing Laboratories; C. C. Winterstein (Chairman), United Gas Improvement Co.; C. R. Graham, James Graham Mfg. Co.; H. E. Haby, Standard Gas Equipment Corp.; W. Z. Friend, Phillips Petroleum Co.; F. O. Suffron, A. G. A. Testing Laboratories and I. V. Brumbaugh, American Stove Co.

Subcommittee on Approval Requirements for Gas Water Heaters shown with a number of guests at one of its recent sessions at the A. G. A. Testing Laboratories in Cleveland, Ohio, on November 19 and 20. Left to right: Arthur La-Capria, Pittsburg Water Heater Corp.; H. J. Hill and Arthur Friedman, Cleveland Heater Co.; J. A. Whittington, The Peoples Gas Light and Coke Co.: A. Stack, Washington Gas Light Co.; W. M. Couzens, A. G. A. Testing Laboratories; E. J. Horton (Chairman), The Ruud Mfg. Co.; F. R. Wright, A. G. A. Testing Laboratories; W. Z. Friend, Phillips Petroleum Co.; R. M. Conner, A. G. A. Testing Laboratories; M. G. Farrar, Carbide and Carbon Chemicals Corp. and P. H. Hamilton

ADVERTISING AND THE APPROVAL SEAL

(Continued from page 17)

was recommended by the Subcommittee on Approval Requirements for Gas Ranges at its March, 1936, meeting. The plan was considered by the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, of which R. B. Harper, vice-president of The Peoples Gas Light and Coke Company, is chairman, at the April meeting of that body. And a special subcommittee, headed by H. E. G. Watson of The Consumers' Power Company of Toronto, was appointed to study the matter and make recommendations. Mr. Watson's group approved the idea and prepared a prospectus of such a plan book, which will be reviewed by Mr. Harper's committee in January. It is expected that the action of this group will be referred to Mr. Mullaney's Committee on Laboratory Publicity.

Other publicity and advertising plans are under consideration by Mr. Mullaney's committee which, when finally worked out, should be of considerable assistance to advertising departments and others in making effective use of the story behind the Laboratories' activities for promoting the sale of gas and gas appliances. There is already much material and data available at the Laboratories, such as photographs of appliances under test and testing equipment, descriptive booklets on the purposes and functions of the Laboratories, articles on special subjects and test standards, which may be secured by advertising departments upon request.

COMMERCIAL SECTION ACTIVITIES

(Continued from page 31)

to ten days and to be held in Cleveland in June. It would be conducted by committee members and it is hoped to attract students graduated during the current year and also teachers or workers in other fields who aspire to home service positions. It will be open to gas companies who wish to send members of their home service staffs for additional instruction.

Appliance Financing and Dealer Relations

H. E. Dexter, chairman of the Appliance Financing and Dealer Relations Committee, reported at the organization meeting that the committee would issue a series of interim bulletins, each one of which would summarize the salient features and results of financing plans used by 15 or 20 company members.

Mr. Dexter also discussed the recommendation of George L. Bird made at the A. G. A. convention that a joint committee representing the American Gas Association and the National Association of Master Plumbers meet to prepare a written form of working agreement for the use of gas companies and plumber-dealer groups. It was the consensus of those present that the committee should meet with representatives of the master plumbers' association and do whatever is practical concerning the recommendation.

R. J. Rutherford stated that the New England Gas Association had done a large amount of work on appliance financing and dealer cooperative activities, as well as other activities which would be covered by the Commercial Section during the year. He urged committee chairmen to make an effort to recognize and utilize the work of other associations to the fullest possible extent.

Refrigeration

Work of the Refrigeration Committee, Hall M. Henry, chairman, will again center around a national sales contest. Last year's contest, with companies representing approximately ten million meters participating, added an estimated billion and a half cubic feet of gas to the annual output of the participating companies. The contest was held during the months of April, May and June.

The 1937 contest will be modified to a degree reflecting the experience gained in previous campaigns.

Other activities of the Refrigeration Committee are expected to include tabulation of the best sales policies, procedures and selling points on gas refrigeration, and preparation of a series of bulletins describing various refrigeration campaigns and their effect in stimulating the sale of gas refrigeration.

Appliance Installation and Servicing

Methods of developing cooperation between plumber-dealers and gas company service departments, the extent of service which should be rendered free, and other important problems are among those to be considered by the Appliance Installation and Servicing Committee, Lee Holtz, chairman.

At the organization meeting, Mr. Holtz reviewed the recommendation of the previous committee that round table discussions be held in connection with the regional sales conferences at which time those in charge of servicing for gas companies in different sections would discuss a prearranged subject. This committee had further recommended that no attempt be made to publish the records of these discussions except where policies could be agreed upon for national application. While final disposition of this matter has not been made, it was decided to ask a number of gas utility representatives to serve as regional vice-chairmen for the primary purpose of organizing and conducting the regional round table discussions. Members of the Managing Committee also recommended that the committee continue its work along job training procedures for effective appliance installation and servicing.

Domestic Range

Present plans for the Domestic Range Committee, L. W. Johnson, chairman, indicate that there will be no national sales contest sponsored by the committee during 1937. It is proposed that the range committee issue one or more bulletins on the results of a survey under way in Chicago to disclose the reasons why people recently have bought gas ranges. This survey and those in process by other companies are expected to furnish valuable data for use in national and local advertising copy.

Home Modernization

H. H. Swenson, chairman of the Home Modernization Committee, will serve as a home modernization counsellor to the various companies interested in organizing and conducting kitchen planning for home modernization bureaus. This will be done by a series of bulletins dealing with recommended practices, methods and theories covering different phases of kitchen planning activities.

Hugh Cuthrell, during a discussion of this subject, outlined briefly the cooperative work of his company with certain Brooklyn banks in modernizing old single-family houses by dividing these houses into multi-family apartments completely equipped with gas appliances. This work is being done through the Federal Housing Administration program and promises to convert these properties into profit makers for the owners.

It was suggested that Mr. Cuthrell obtain the cooperation of the Washington office of the F.H.A. in making this a national movement for the gas industry and that Mr. Swenson should include this subject in his list of interim bulletins scheduled for early publication. It was pointed out that such a program should be broad and fair with regard to the inclusion of electric appliances if it is to be adopted generally by the industry.

Window Display

The Window and Store Display Committee, H. Vinton Potter, chairman, plans to prepare a display bulletin for distribution quarterly during the Association year. It is hoped to secure the cooperation of a large number of contributing members who will forward photographs and descriptions of their displays for publication in the bulletins.

Nominating Committee Change

Membership of the Nominating Committee has been enlarged to include the last four or five past chairmen of the Section so that the committee could act as an Advisory Committee to officers of the Section during the Association year, as well as fulfill its nominating functions. This will give the officers the benefit of the judgment of recent past-chairmen and in all probability will make unnecessary any further meetings of the Managing Committee as a whole.

Personnel Service

SERVICES OFFERED

Accounting, Auditing, Bookkeeping, Clerical and Office Workers

Consultant, long experience as manager, cosmopolitan cities, desires temporary engagements to investigate, criticize or cooperate in the **handling** of **customer accounts,** dealings with customers, personnel, accident compensation, negligence claims. Anything pertaining to the business or customer side of the gas industry. Any city, any time, long or short periods. **1063.**

Advertising, Publicity and Public Relations

(Classification records available)

Chemists, Physicists and Research Workers

(Classification records available)

Engineers

Gas engineer nineteen years' designing, manufacturing, erecting and operating producers, blue and carburetted water gas plants. Experienced with all kinds fuels; five years in Russia. Not particular, anything from foreman to chief engineer large plant or group small gas properties. Best references. **1075.**

Graduate mechanical **engineer**—Broad technical experience in the gas industry, including both manufactured and natural gas—sales, production, utilization, distribution, construction, rate making, appraisals and reports. Available on short notice. **1080.**

Appraisal engineer, four years appraisal experience on gas and electric utilities and background of more than twenty-five years' actual management, operation and construction of manufactured and natural gas utilities. Have made rate studies, written reports and very familiar with public utility accounting. Available immediately. **1091.**

Managers and Superintendents

Twenty years of experience in executive capacity in **utility management,** including electrical contracting and merchandising of fixtures, electrical ranges and refrigerating machines; in last eight years' management of forty-three million dollar company, gross earnings increased four and one-half and net earnings ten and one-fourth times. **1085.**

Salesmen and Sales Engineers

Salesman in Metropolitan area New York and nearby States seeks position to represent manufacturer in gas appliances, gas fired boilers, gas ranges, water heaters all types and refrigerators. Has an established trade for last fifteen years among gas companies, wholesalers, distributors and plumbers and dealers, architects, builders. **1076.**

Thoroughly experienced **sales engineer** in industrial gas and gas house heating, services available at once, twelve years' experience in gas utility new business operations. **1077.**

Utilization and **sales engineer.** Long experience in housheating, industrial applications and restaurant equipment. Can make complete investigation and survey and select proper equipment; can direct correct installation. Thorough in inspection and maintenance of appliances. Can manage a department for a utility. Will represent a manufacturer in the New York Metropolitan area. **1078.**

Salesman, good education and training wants connection in sales department. Can make house heating surveys and sales. Eleven years in the gas industry. In good health and will go anywhere (35). **1079.**

Can you use any of these: Ability to get and hold dealer cooperation, general **sales-promotional** and public relations or advertising service, singly or in combination, all ripened by broad business experience and supported by impressive proof? Available without delusions of grandeur as to compensation. **1062.**

Sales and **promotion** of appliances for house-heating, domestic and small power and industrial installations. Previous utility experience includes supervising and operating mixed gas systems, natural gas changeover, distribution and utilization. **1084.**

SERVICES OFFERED

Salesmen and Sales Engineers

(continued)

Services of able and energetic man offered as **representative** in New York holding corporation utility fields: proposed work to cover **sales promotion** and presentation of products to utility headquarters and passing back reaction of reception along with suggestions to factory executive. Interview requested with substantial manufacturer. **1086.**

Sales representative for range manufacturer in any Eastern territory; aggressive and capable, college graduate; successful managerial experience on propane bottled gas with company which has enjoyed exceptional growth in territory served. (32). **1087.**

Gas sales engineer. College graduate, experienced in marketing natural gas to institutions for heating; oil refineries, glass and paint companies; ceramic, ice and power plants, salt companies and heat treating plants. Familiar with design and installation of metering, regulating and burning equipment. Now employed. **1088.**

Sales engineer. Househeating, water heating and industrial application. Supervisory capacity. Experience covers surveys, sales, maintenance, sales promotion, reports, installation, service and repairs. Broad general and technical knowledge and excellent public relations. Married. **1089.**

SERVICES OFFERED

Salesmen and Sales Engineers

(continued)

As **factory representative** and **salesman,** with high grade gas range manufacturer or other gas appliance, approved by the A. G. A. Am familiar with the gas utilities of New York State, their personnel, also dealers. Am a producer and hustler. **1092.**

College graduate (29) single, with over five years' experience on gas **house heating sales,** installation, and service work with gas company. Can make surveys, prepare estimates, supervise installations, and train service men as well as salesmen. Desires position manufacturer or gas company. **1093.**

Do you need an **industrial gas salesman** or house heating supervisor? I am a graduate engineer with over ten years' experience in this work and have had responsible charge. I should like to discuss your problems and my experience with you. **1094.**

Miscellaneous

Young man, university graduate 1936, B.S. in Economics, public affairs major; interested in public relations work. Desires to become associated with gas or electric company, willing to learn business and start as a **cadet.** Good worker, references. **1090.**

1937 *our* 24th Year

Analysis and classification of the advertisements printed in the "Services Offered" columns for the year 1936 indicate that they may be conveniently "broken down" into the foregoing headings. It is believed this arrangement will better serve the convenience and conserve the time of employers when considering the qualifications and experience of prospective employees.

May we remind our readers that this service is free to all members; that each advertisement is supported by a Confidential Classification Record which furnishes, with brevity and clarity, detailed information about the personal, educational, and professional qualifications and experience of the individual. The accuracy of the classification record is currently maintained with regard to availability and street address every six months by means of special postcards; failure to acknowledge, or return of the card, via the Post Office, in thirty days, automatically transfers an applicant's papers to the inactive list.

Twenty-four years ago the first advertisement was published in the first issue (January 1913) of the *National Commercial Gas Association Bulletin*; the service was introduced as follows:

> "This column of the Bulletin is open to the companies who desire to avail themselves of the privilege, and all communications will be held strictly confidential.
>
> "Space does not permit of our publishing the requests of all applicants for positions, but the Association, in confidence, will be glad to receive applications for positions for its members, which should state fully all particulars, experience, salary desired, and position wanted.
>
> "Many requests come in from time to time from companies offering excellent opportunities, and any applications on file will be submitted to the companies inquiring.
>
> "No charge is made either to the company or applicant for the service which might be more fully taken advantage of."

Six years later, and eighteen years ago, the *American Gas Association Monthly* (Vol. 1, Nos. 11-12, November-December 1919), when publishing the first advertisement (Key No. 1) announced:

> "Our purpose is to be of service to both employers and employees among members and we shall build up this department and the facilities it can offer as a clearing house to keep pace with the demands made upon us. No charge is made for the service and all communications are regarded as strictly confidential."

It will thus be seen that this service has been available to the industry through good and bad times for nearly a quarter of a century and we earnestly bespeak the interest of employers in making every use of *Personnel Service* to an even greater extent than they have in the past; to summarize:

The advertising columns are available to members of the Association without charge.

The space available for the "Services Offered" advertisement is limited to fifty words and the key number assigned protects the individual and provides as confidential treatment as can consistently be given.

For the Association member a minimum of three consecutive insertions (Services Offered) of the same advertisement is customarily provided and for the non-member, associated with the industry, one insertion whenever space permits.

For the advertisement by gas company or manufacturer in the "Positions Open" column, the key number automatically guarantees completely confidential treatment; the identity of the advertiser is never revealed under any circumstances without his written permission.

Personnel Service correspondence during the year 1936, and notably toward its close, seems to indicate a distinctly better spirit and more encouraging tone. We confidently look forward to the time, in the very near future we hope, when calls for men will outnumber the proffers of service.

May the New Year bring the best to all readers and users of this page.

Advisory Council

H. C. ABELL.....New Orleans, La.
JAY BARNES.....New Orleans, La.
C. E. BENNETT.....Pittsburgh, Pa.
HOWARD BRUCE.....Baltimore, Md.
FRANK L. CHASE.....Dallas, Texas
A. S. CORSON.....Philadelphia, Pa.
ADDISON B. DAY.....Los Angeles, Calif.
B. J. DENMAN.....Chicago, Ill.
F. C. FREEMAN.....Providence, R. I.
C. W. GALE.....Knoxville, Tenn.
R. W. GALLAGHER.....New York, N. Y.
F. L. GRIFFITH.....Chicago, Ill.
O. S. HAGERMAN.....Chicago, Ill.
C. A. HARRISON.....Toledo, Ohio
SAMUEL INSULL, JR.....Chicago, Ill.
F. B. JONES.....Pittsburgh, Pa.
F. A. LEMKE.....Kalamazoo, Mich.
F. A. LYDECKER.....Newark, N. J.
F. A. MILLER.....Bradford, Pa.
WM. MOELLER, JR. .....Los Angeles, Calif.
E. B. NUTT.....New York, N. Y.
CLIFFORD E. PAIGE.....Brooklyn, N. Y.
J. A. PERRY.....Swarthmore, Pa.
J. F. QUINN.....Brooklyn, N. Y.
GEO. W. RATCLIFFE.....Pittsburgh, Pa.
THOS. E. ROACH.....Tacoma, Wash.
J. M. ROBERTS.....Chicago, Ill.
W. FRANK ROBERTS.....Baltimore, Md.
F. M. ROSENKRANS.....Kansas City, Mo.
N. T. SELLMAN.....New York, N. Y.
D. B. STOKES.....Burlington, N. J.
J. B. TONKIN.....Pittsburgh, Pa.
F. S. WADE.....Los Angeles, Calif.
T. R. WEYMOUTH.....Pittsburgh, Pa.
E. L. WILDER.....New York, N. Y.

AFFILIATED ASSOCIATIONS

Association of Gas Appliance and Equipment Manufacturers
Pres.—William T. Rasch, American Gas Products Corp., New York, N. Y.
Exec. Sec.—C. W. Berghorn, 60 East 42nd St., New York, N. Y.

Canadian Gas Association
Pres.—W. H. Munro, Ottawa Gas Co., Ottawa, Ont., Canada.
Sec.-Tr.—G. W. Allen, 183 Glengarry Avenue, Toronto.

Empire State Gas and Electric Association
Pres.—E. R. Acker, Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.
Chairman, Gas Section—R. R. Bogie, Kings County Lighting Co., Brooklyn, N. Y.
Acting Sec.—George H. Smith, Grand Central Terminal, New York, N. Y.

Illinois Public Utilities Association
Pres.—A. D. Mackie, Central Illinois Light Co., Springfield, Ill.
Sec.—Jack Abbey, 607 Leland Office Bldg., Springfield, Ill.

Indiana Gas Association
Pres.—L. C. Heavner, Northern Indiana Public Service Co., Fort Wayne, Ind.
Sec.-Tr.—P. A. McLeod, New Castle, Ind.

Michigan Gas Association
Pres.—Newell E. Loomis, Detroit City Gas Co., Detroit, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Maryland Utilities Association
Pres.—F. A. Alexander, Conowingo Power Co., Elkton, Md.
Sec.—E. J. Hand, Conowingo Power Co., Elkton, Md.

Mid-West Gas Association
Pres.—H. M. Smith, Iowa Public Service Co., Waterloo, Ia.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

Missouri Association of Public Utilities
Pres.—C. E. Michel, Union Electric Light & Power Co., St. Louis, Mo.
Sec.-Tr.—N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

New England Gas Association
Pres.—F. L. Ball, New England Power Association, Boston, Mass.
Exec. Sec.—Clark Belden, 41 Mt Vernon St., Boston, Mass.

New Jersey Gas Association
Pres.—William S. Potter, Elizabethtown Consolidated Gas Co., Elizabeth, N. J.
Sec.-Tr.—G. B. Webber, Public Service Electric and Gas Co., Newark, N. J.

Ohio Gas and Oil Men's Association
Pres.—Harry F. Moran, Ohio Oil Co., Findlay, Ohio.
Sec.-Tr.—Frank B. Maullar, 811 First National Bank Bldg., Columbus, Ohio.

Oklahoma Utilities Association
Pres.—C. A. Breitung, Southwest Gas Utilities Corp., Ada, Okla.
Acting Sec.—Kate A. Niblack, 625 Biltmore Hotel, Oklahoma City, Okla.

Pacific Coast Gas Association
Pres.—James F. Pollard, Seattle Gas Co., Seattle, Wash.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

Pennsylvania Gas Association
Pres.—H. N. Squier, Scranton-Spring Brook Water Service Co., Scranton, Pa.
Sec.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

Pennsylvania Natural Gas Men's Association
Pres.—H. D. Freeland, Waynesburg, Pa.
Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.

Southern Gas Association
Pres.—H. E. Meade, New Orleans Public Service Inc., New Orleans, La.
Sec.-Tr.—S. L. Drumm, New Orleans Public Service Inc., New Orleans, La.

The Public Utilities Association of Virginia
Pres.—T. Justin Moore, Va. Elec. & Power Co., Richmond, Va.

Wisconsin Utilities Association
Pres.—Frank A. Coffin, The Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Exec. Sec.—A. F. Herwig, 135 West Wells St., Milwaukee, Wis.

AMERICAN GAS ASSOCIATION

HEADQUARTERS, 420 LEXINGTON AVE., NEW YORK, N. Y.

OFFICERS AND DIRECTORS

President	HERMAN RUSSELL	Rochester, N. Y.
Vice-President	N. C. McGOWEN	Shreveport, La.
Vice-President	CONRAD N. LAUER	Philadelphia, Pa.
Treasurer	J. F. ROONEY	New York, N. Y.
Managing Director	ALEXANDER FORWARD	New York, N. Y.
Assistant Manager	H. W. HARTMAN	New York, N. Y.
Secretary	KURWIN R. BOYES	New York, N. Y.
Director, Publicity-Advg.	C. W. PERSON	New York, N. Y.
Departmental Vice-Pres.	GEORGE WELKER	Oil City, Pa.
Sectional Vice-Pres.	H. E. CLIFF	Newark, N. J.
Sectional Vice-Pres.	F. M. BANKS	Los Angeles, Calif.
Sectional Vice-Pres.	RALPH L. MANIER	Syracuse, N. Y.
Sectional Vice-Pres.	JOHN A. FRY	Detroit, Mich.
Sectional Vice-Pres.	MARTIN I. MIX	Chicago, Ill.
Chairman, Pub. & Advg. Com.	HENRY OBERMEYER	New York, N. Y.

WALTER C. BECKJORD	Pittsburgh, Pa.	C. W. HUNTER	Philadelphia, Pa.
C. W. BENNETT	Detroit, Mich.	B. J. MULLANEY	Chicago, Ill.
C. M. COHN	Baltimore, Md.	F. A. NEWTON	New York, N. Y.
H. C. COOPER	Pittsburgh, Pa.	JAMES F. POLLARD	Seattle, Wash.
J. S. DEHART	Newark, N. J.	W. T. RASCH	New York, N. Y.
L. B. DENNING	Dallas, Texas	MARCY L. SPERRY	Washington, D. C.
H. L. DOHERTY	New York, N. Y.	W. E. STEINWEDELL	Cleveland, Ohio
O. H. FOGG	New York, N. Y.	T. J. STRICKLER	Kansas City, Mo.
GEORGE S. HAWLEY	Bridgeport, Conn.	JOHN K. SWANSON	Minneapolis, Minn.

P. S. YOUNG ..... Newark, N. J.

SECTION AND DEPARTMENT OFFICERS

NATURAL GAS—Chairman	GEORGE E. WELKER	Oil City, Pa.
Vice-Chairman	ROBERT W. HENDEE	Colorado Spgs., Colo.
Secretary	A. E. HIGGINS	Dallas, Texas
ACCOUNTING—Chairman	HERBERT E. CLIFF	Newark, N. J.
Vice-Chairman	E. J. TUCKER	Toronto, Ont., Can.
Secretary	H. W. HARTMAN	New York, N. Y.
COMMERCIAL—Chairman	F. M. BANKS	Los Angeles, Calif.
Vice-Chairman	HUGH CUTHRELL	Brooklyn, N. Y.
Secretary	J. W. WEST, JR.	New York, N. Y.
INDUSTRIAL GAS—Chairman	RALPH L. MANIER	Syracuse, N. Y.
Vice-Chairman	HALE A. CLARK	Detroit, Mich.
Secretary	EUGENE D. MILENER	New York, N. Y.
MANUFACTURERS—Chairman	JOHN A. FRY	Detroit, Mich.
Vice-Chairman	MERRILL N. DAVIS	Bradford, Pa.
Vice-Chairman	J. SCOTT FOWLER	Philadelphia, Pa.
TECHNICAL—Chairman	M. I. MIX	Chicago, Ill.
Vice-Chairman	J. V. POSTLES	Philadelphia, Pa.
Secretary	H. W. HARTMAN	New York, N. Y.
PUBLICITY & ADVERTISING COMMITTEE—Chairman	HENRY OBERMEYER	New York, N. Y.
A. G. A. TESTING LABORATORIES—		
Chairman, Managing Committee	J. S. DEHART, JR.	Newark, N. J.
Secretary, Managing Committee	N. T. SELLMAN	New York, N. Y.
Director	R. M. CONNER	Cleveland, Ohio

PRINTED IN THE U. S. A.